15 CENTS A COPY

THE OIL WEEKLY

OIL & GAS ENGINEERING

News Statistics

There is only one thing to do when you hit **HARD FORMATIONS . . .**

Put on a

HUGHES ROCK BIT

The men in the lower picture are (left to right):
H. A. LaBore, Wallace Langston, Harry Woods, J. H. Creel
(Size of Bit—13¾")

The above photographs were taken on the derrick floor of the Mills Bennett Production Company's Fisher No. 4, Barbers Hill—and shows a "fish tail bit coming out"—and a "Hughes Rock Bit going in."

The smiles of the crew say louder than words—"now we will make Hole."

Operators, contractors and drillers throughout the oil fields of the world know that a Hughes Rock Bit, equipped with Hughes Cones, insures drilling speed, economy and safety.

HUGHES TOOL COMPANY

Service Plants
Los Angeles, Calif.
Oklahoma City, Okla.
Midland, Texas

Main Office and Plant
Houston, Texas

Export Offices
Woolworth Building
New York City

June 26, 1931

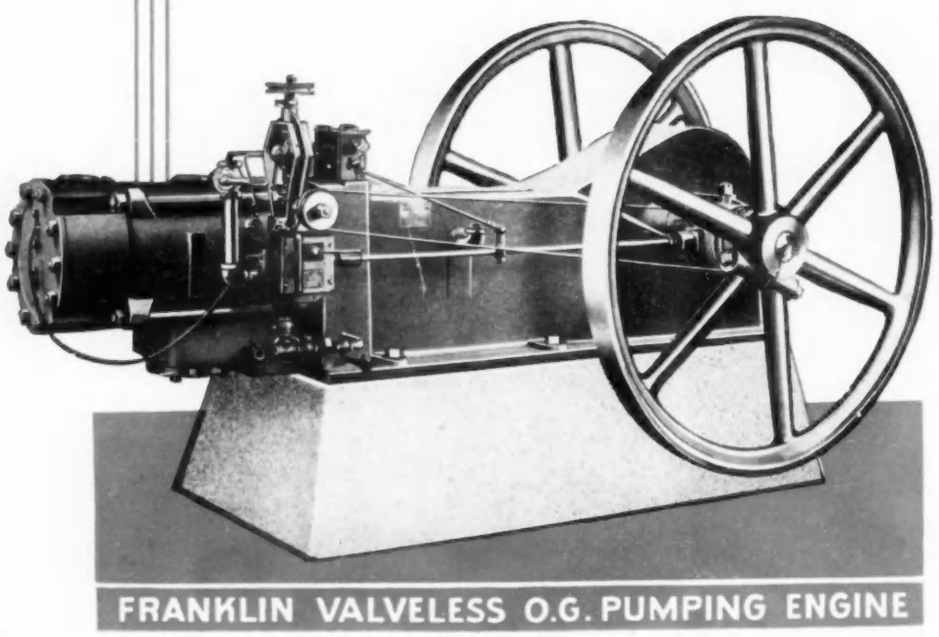
ADVERTISERS INDEX, LAST PAGE

EDITORIAL INDEX, PAGE 19

You wouldn't buy an automobile without 4-Wheel brakes or balloon tires—why not apply the same logic to Engines—Buy an Engine that may be Converted from Gas to Oil Fuel

The FRANKLIN VALVELESS O. G. GAS PUMPING ENGINE is really two engines in one—for this engine may be converted to OIL FUEL in 90 minutes and at a reasonable cost. Here is a modern engine—the ideal prime mover to install where gas supply is weak, uncertain or showing evidence of early depletion. Engineered to deliver smooth power at all speeds. Forward looking production companies are standardizing on this fine dual-purpose Engine. Get the facts—there's extra value in every FRANKLIN VALVELESS ENGINE.

FRANKLIN
VALVELESS ENGINE
COMPANY
FRANKLIN, PENNSYLVANIA



FRANKLIN VALVELESS O.G. PUMPING ENGINE

DISTRIBUTED BY OIL WELL SUPPLY COMPANY

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 3301 Buffalo Drive, Houston, Texas. Subscription price $1.00 per year; 15 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879

..GASO

Standards of Workmanship help to explain the very fine performance of GASO PUMPS

Every GASO Pump is built to the most exacting standards of workmanship, by men who have been carefully trained in GASO construction ideals. This fine building combines with correctness of design to reduce friction and wear, and thus to assure dependable and economical performance.

Send your requirements for detailed data on GASO equipment for any pumping need

GASO PUMP & BURNER MFG. CO. . . . Tulsa, Okla.

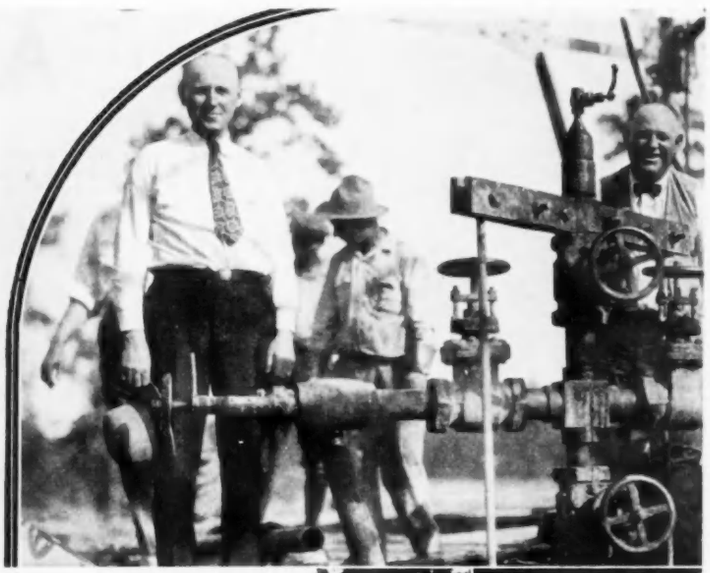
Export Office: New York, N. Y.

Shown below is GASO Timken Bearing Enclosed Power Pump, Fig. 1508. Interchangeable liners give capacities ranging from 63 bbls. per hour at 800 lbs. working pressure to 250 bbls. per hour at 250 lbs. pressure. Arranged for any type of drive desired

GASO PUMPS

FOR EVERY OIL INDUSTRY NEED

In Kilgore as in every important field . . .



A well in the Kilgore district. . . . JARECKI Valves and Fittings throughout.

The JARECKI store at Kilgore . . . . . headquarters for dependable equipment.

Jarecki offers quick, dependable service

Every time another field bursts into activity, there is a new demonstration of the thoroughness of JARECKI service. In Kilgore as in Mexia, Seminole, Shidler, etc., the operators found JARECKI stores ready to serve them. Not only were their requirements promptly filled, but they were sure of the same dependable products, the same experienced service that they had been receiving from JARECKI stores throughout the oil country. . . . . No matter what you are interested in, if it is used on an oil or gas lease, you take all guesswork out of buying by looking for the JARECKI trademark "J". Products bearing this mark are and always have been soundly designed, honestly made and thoroughly inspected.

Jarecki
MANUFACTURING COMPANY

General Office—St. Louis, Mo. Home Office and Factory—Erie, Pa., U. S. A.

Branch Stores at all important places in the Oil Country.

District Offices { Pittsburgh, Pa.; El Dorado, Kan.; Tulsa, Okla.; Newark, Ohio; Eastland and Dallas, Texas; Lawrenceville, Ill.

The McGaughy Integrator Co. ANNOUNCES

to the Gas Industry that it has disposed of its interests to the Pittsburgh Equitable Meter Company, Pittsburgh, Penna.

The superior manufacturing facilities, the many branch offices and warehouses of the Pittsburgh Equitable Meter Company will provide better machines and better service for Integrator users. The "Pittsburgh Equitable Idea" of carrying on further research work and of building only the highest quality of products will be carried out in the further production of the McGaughy Integrator.

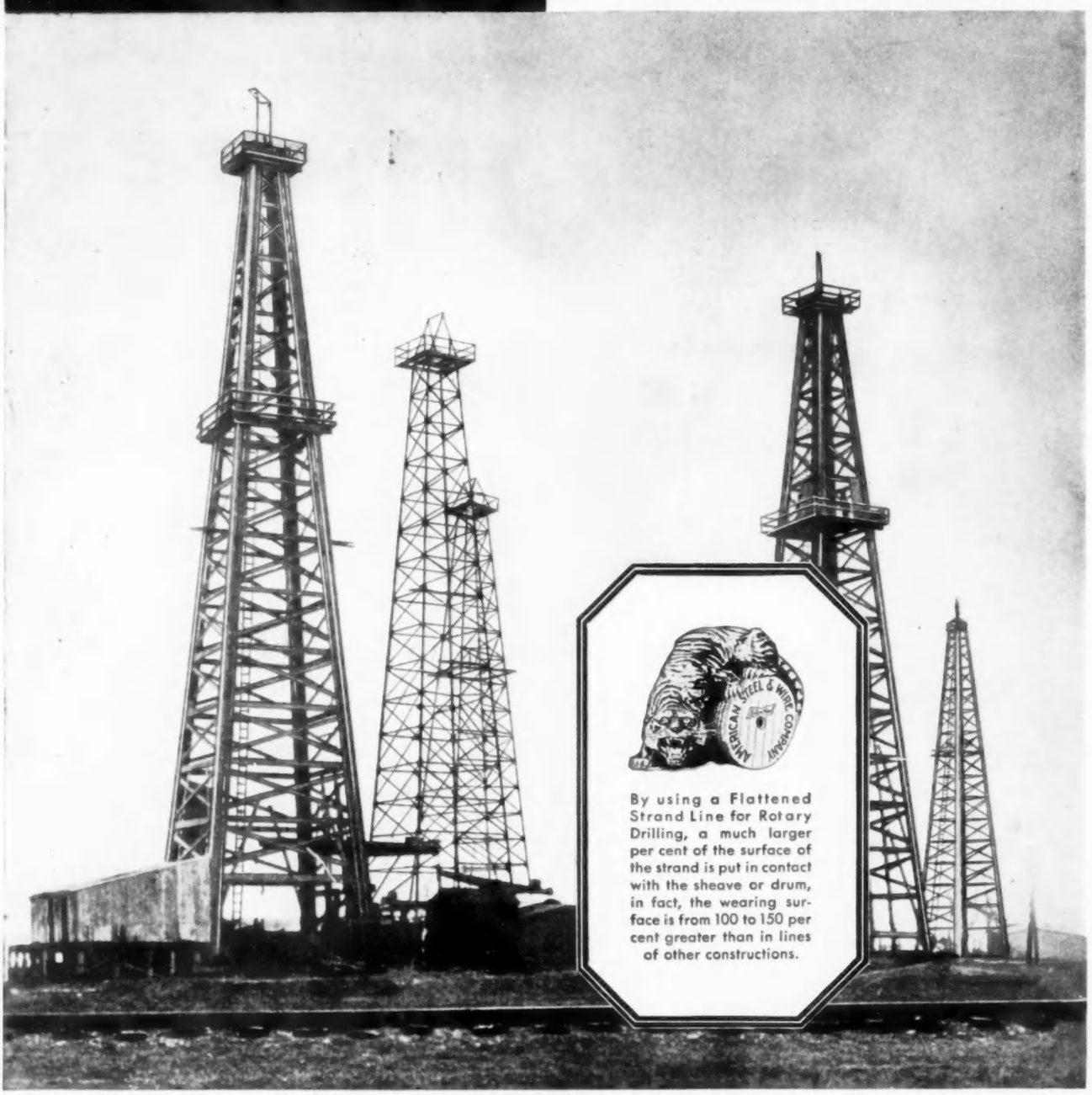
McGAUGHY INTEGRATOR COMPANY
TULSA, OKLAHOMA

John B. McGaughy

AMERICAN STEEL & WIRE COMPANY WIRE LINES

Where Dependability is Vital

In the oil fields—where uninterrupted service is vital—the selection of wire lines deserves more than ordinary care. Because of their proved dependability and greater economy, most operators specify American Steel & Wire Company Wire Lines. It will pay you to know why in detail. Our engineers, in the oil country, will gladly assist you in solving your wire line problems.


AMERICAN STEEL & WIRE COMPANY
By using a Flattened Strand Line for Rotary Drilling, a much larger per cent of the surface of the strand is put in contact with the sheave or drum, in fact, the wearing surface is from 100 to 150 per cent greater than in lines of other constructions.

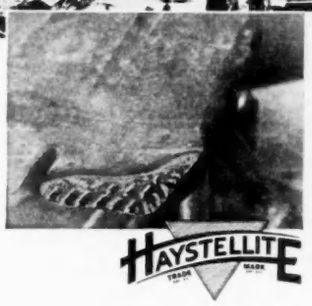
1831 COMMEMORATING 100 YEARS of PROGRESS IN WIRE MAKING 1931

AMERICAN STEEL & WIRE COMPANY

208 South La Salle Street, Chicago SUBSIDIARY OF UNITED STATES STEEL CORPORATION And All Principal Cities

Pacific Coast Distributors: Columbia Steel Company, Russ Building, San Francisco *Export Distributors:* United States Steel Products Company, New York

Why Red-Hard Bits Drill Straighter Holes



Small pieces of Haystellite, the cast Tungsten Carbide diamond substitute, welded in place.

Surfacing a Haystellite hard-set bit with Haynes Stellite, the red-hard alloy of Chromium, Cobalt and Tungsten.

AT the 4000-ft. hard rock level in the Refugio District, a bit hard-set with Haystellite and hard-surfaced with Haynes Stellite drilled 21 ft. in 3 hrs. and was only ¼ in. out of gauge when pulled.

In shale, lime and sand, plain Haynes Stellited bits regularly drill 400 to 500 ft. without redressing.

Such records are possible only because Haynes Stellite's hardness is inherent and not the result of heat treatment. Bits protected with a few ounces of Haystellite and Haynes Stellite stay hard even at red heat. No wonder they give more footage, drill straighter holes, and last from 3 to 5 times longer!

Haystellite is a cast tungsten carbide alloy that combines diamond hardness with toughness that resists the shock and strain of drilling.

Haynes Stellite is a chromium-cobalt-tungsten alloy that stays hard even at red heat. Used with Haystellite, it gives a bit hardness and toughness obtainable in no other way.

These red-hard, wear-resisting alloys are easily applied with the oxy-acetylene blowpipe. Write today for further information.

How You Can Test Red Hardness

Deposit Haynes Stellite on a steel coupon. Allow it to cool; then try to file it. You will note that it is too hard to file . . . Now heat it red-hot with an oxy-acetylene blowpipe and try to file it at this temperature. You will still be unable to do it. Haynes Stellite stays hard even at red heat . . . What other metal could pass this test?

HAYNES STELLITE COMPANY

Unit of Union Carbide and Carbon Corporation

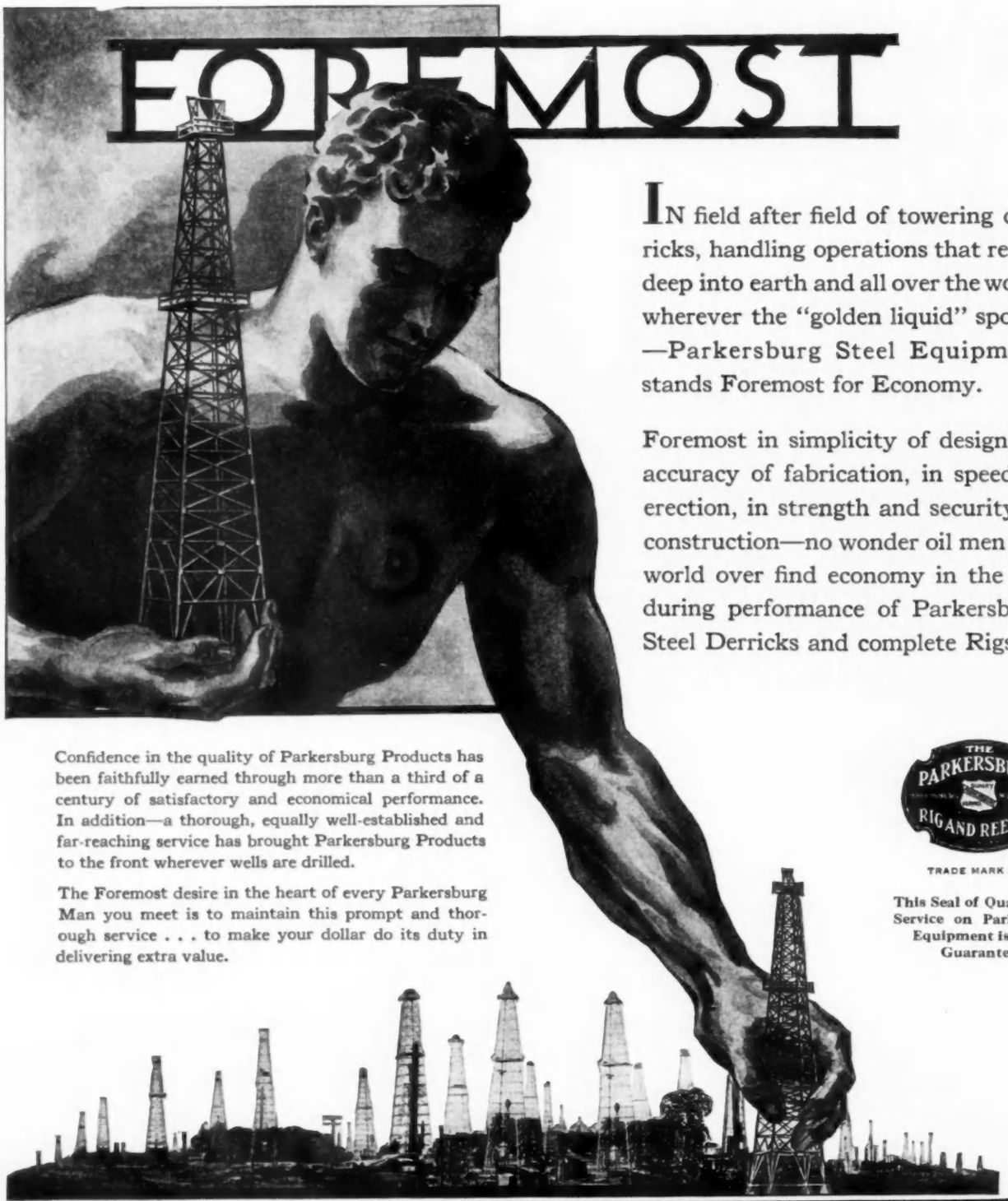
UCC

CHICAGO CLEVELAND HOUSTON DETROIT LOS ANGELES NEW YORK SAN FRANCISCO TULSA

General Offices and Works—Kokomo, Indiana

Haynes Stellite alloys are available also at all of the 42 apparatus shipping points of The Linde Air Products Company

FOREMOST



IN field after field of towering derricks, handling operations that reach deep into earth and all over the world wherever the "golden liquid" spouts —Parkersburg Steel Equipment stands Foremost for Economy.

Foremost in simplicity of design, in accuracy of fabrication, in speed of erection, in strength and security of construction—no wonder oil men the world over find economy in the enduring performance of Parkersburg Steel Derricks and complete Rigs.

Confidence in the quality of Parkersburg Products has been faithfully earned through more than a third of a century of satisfactory and economical performance. In addition—a thorough, equally well-established and far-reaching service has brought Parkersburg Products to the front wherever wells are drilled.

The Foremost desire in the heart of every Parkersburg Man you meet is to maintain this prompt and thorough service . . . to make your dollar do its duty in delivering extra value.

THE PARKERSBURG RIG AND REEL CO.

TRADE MARK REG.

This Seal of Quality and Service on Parkersburg Equipment is Your Guarantee.

QUALITY AND SERVICE

From DERRICKS *To* TANKS

THE PARKERSBURG RIG AND REEL CO.

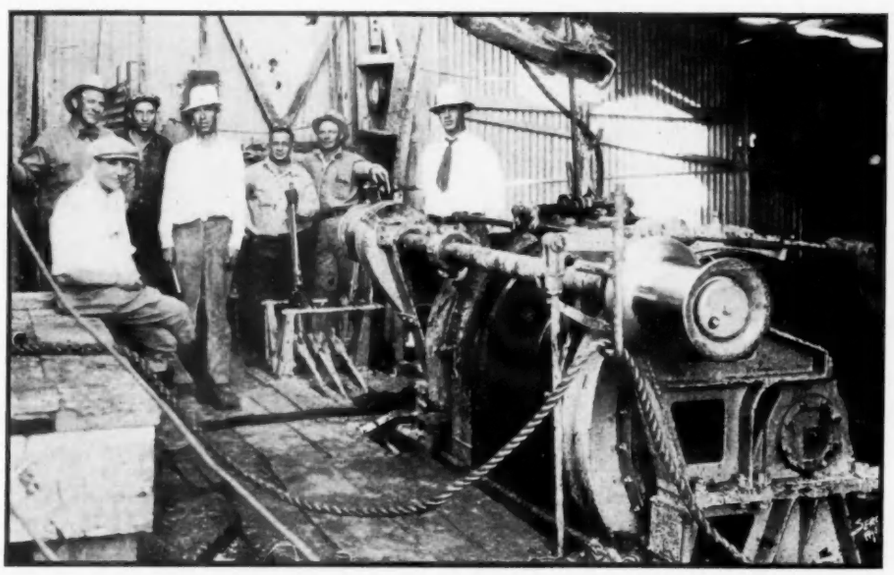
PARKERSBURG, W. VA.

NEW YORK • TULSA • FT. WORTH • HOUSTON

BRANCHES IN ACTIVE FIELDS

CABLE ADDRESS "PARIGREEL"

★ Consistently *American Brakebloks* Cut Braking Costs



★ This picture shows the crew and the Doheny-Stone Hydrill now in use by North American Consolidated at Kettleman Hills. Drillers on this rig were loud in their praise of American BRAKEBLOKS. At the time of installation on Blauvet No. 1, North American Consolidated at Kettleman Hills, a world's record had been established for carrying the longest string of 6⅝, 25 lb. drill pipe. The drillers claimed that BRAKEBLOKS carried this heavy load much easier than the conventional woven lining and with little or no physical effort on their part. The change was noticed immediately, no time being required for brakes to adjust themselves to rim, as is so often the case with new brake lining. BRAKEBLOKS were installed February 25, 1931 at 6,550 feet, and were taken off April 25, 1931 at 7,556 feet. They had made thirty round trips. This record was taken from the number of bits used during their period of service and does not count reaming of hole. Also during this period another world's record was established when the world's longest string of 13⅜, 68 lb. casing was set, 6,766 feet in 16 hours and 45 minutes.

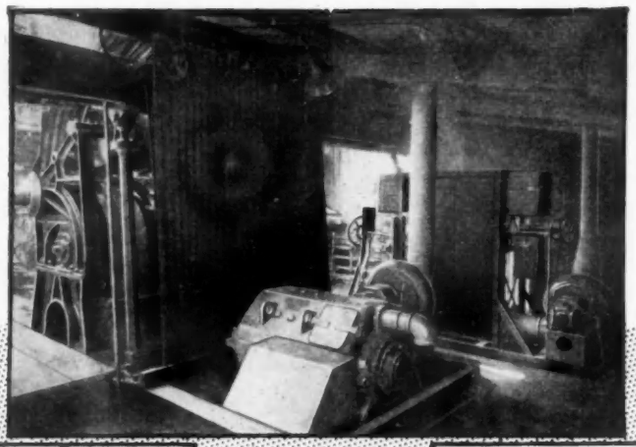
IT IS NOT uncommon for American BRAKEBLOKS to reduce braking costs several hundred dollars in equipment and time saved on wells where they are used. They deliver more ton miles of operation, giving uniform, dependable braking from grass roots to bottom, even when the material is worn thin.

American BRAKEBLOKS are neither woven nor molded. They are a patented material formed under pressure and are non-compressible in service. They maintain a constant coefficient of friction and outwear all other oil well brake materials. They keep flanges true and smooth—do not score, burn, smoke, squeal or kick.

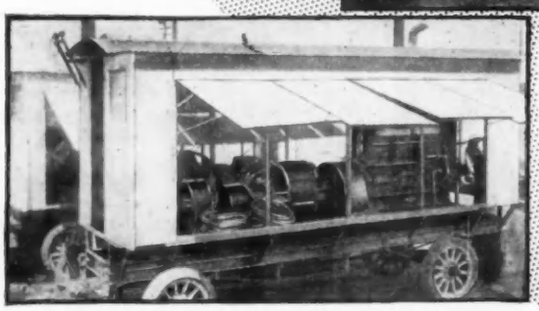
Get the facts on American BRAKEBLOKS. Read the records of their performance on other wells. The complete story will be sent on request.

AMERICAN BRAKE MATERIALS CORPORATION
Industrial and Automotive Division of
AMERICAN BRAKE SHOE & FOUNDRY COMPANY
4660 Merritt Ave., Detroit, Mich., U. S. A.
Sales Offices: Chicago · New York · San Francisco
Export Department: 39 Water Street, New York

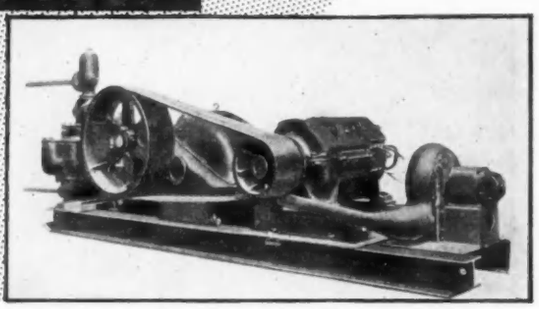
AMERICAN BRAKEBLOKS
TRADE MARK REG IN U.S. AND CAN. PAT. OFFS.



Draw works operated by a G-E Type MD, 100-hp., direct-current motor. All equipment illustrated is in use by Union Oil Company of California



Two engine-driven G-E 75-kw. generator sets for d-c. power supply. Equipment is mounted on trailers for ready portability



Mud-pump drive consisting of a G-E Type MD, 60-hp., direct-current motor arranged for separate ventilation

G-E DIRECT-CURRENT DRIVE HAS SUPERIOR DRILLING CHARACTERISTICS

USERS of this new G-E drive for rotary drilling have found that they've at last obtained the unbeatable flexibility of direct current together with the wide speed-range heretofore thought possible only with steam drive.

Where there are no power lines, this outfit, with Diesel- or gasoline-engine-driven generating equipment, combines the advantages and economies of electric drive and internal combustion engines, namely, smoothness, low maintenance, ease of handling, greatly reduced water consumption, and greatly improved economy of fuel consumption. The engines cannot be stalled by an overload, nor can the electric equipment be overtaxed. Where power can be taken from transmission lines, the same advantages may be realized by using a motor instead of engines to drive the generators.

There are many other advantages inherent in this new type of drive for rotary drilling; why not ask a G-E office — conveniently located near your field — for a copy of descriptive publication GEA-1386, which gives the complete story?

JOIN US IN THE GENERAL ELECTRIC PROGRAM, BROADCAST EVERY SATURDAY EVENING ON A NATION-WIDE N.B.C. NETWORK

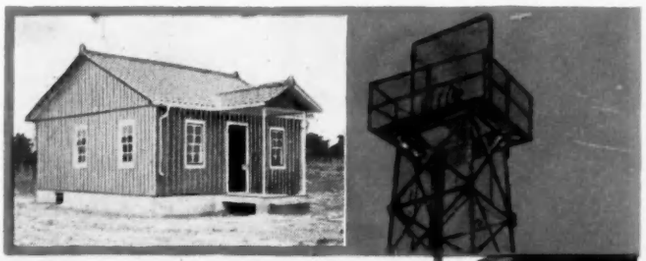
237-51

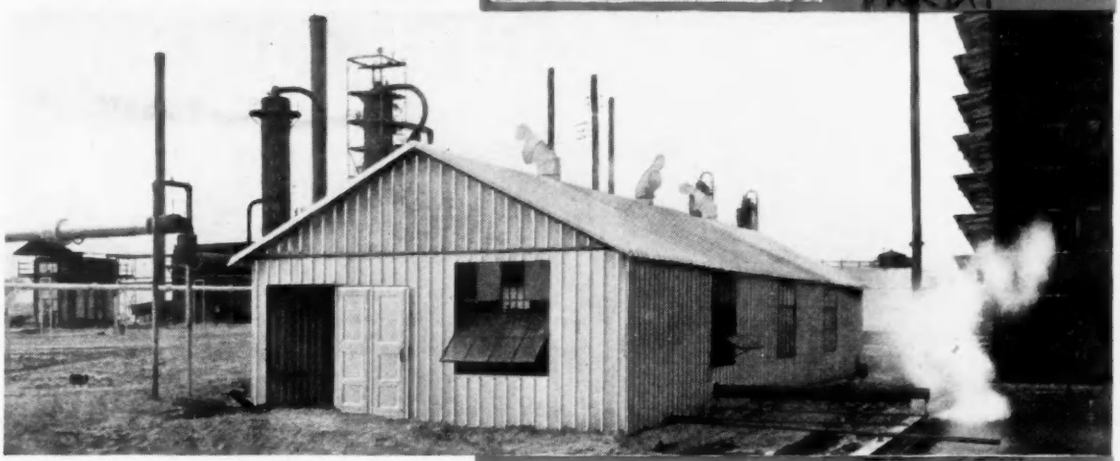
GENERAL ELECTRIC

SALES AND ENGINEERING SERVICE IN PRINCIPAL CITIES

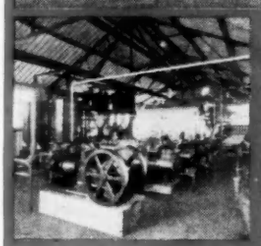
MADE ENTIRELY OF STEEL

BUTLER





READY-MADE STEEL BUILDINGS Shelter Every Oil Field Activity



FIELD offices, dwellings, pump stations, power belt houses, flowing plants, refineries, material supply depots, warehouses, bunk and mess halls, garages . . . Butler Ready-Made Steel Buildings shelter practically every activity of the oil fields. And the reasons . . . fire-safeness to offset remoteness from fire protection, complete materials, ready made and readily transported to outpost operations, speed in erection by whatever sort of labor crew available, lower investment and maintenance charges, structural qualities which insure permanence, yet which permit of enlarging or taking down and re-erection. Send for the new booklet picturing many Butler installations. Call upon Butler engineers to supply full details and prices on any type structure in mind.

BUTLER MANUFACTURING COMPANY

1246 Eastern Avenue
Kansas City, Mo.

STEEL BUTLER PRODUCTS

946 Sixth Ave., S. E.
Minneapolis, Minn.

Darling Forged Steel Gate Valve, Dar-a-loy trimmed for drilling well control, flow lines and other hazardous conditions.

Keep the Oil After You Get It

It's one thing to coax the oil out of the stubborn ground and it's another thing to keep it once it is in your grasp.

Place Darling Forged Steel Valves at the vital points—where control of high pressures means the saving of thousands of barrels of oil. True enough you invest a trifle more for this extra strength, but it pays—pays big!

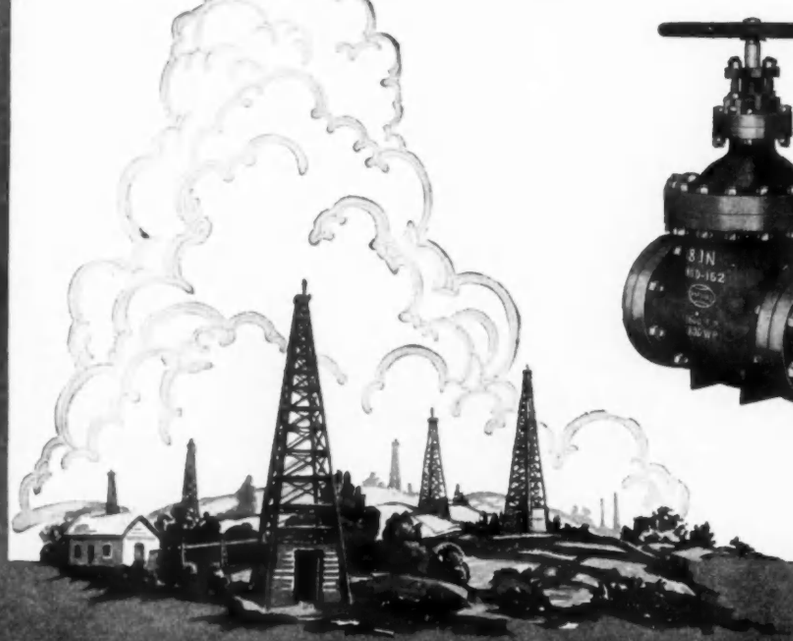
DARLING VALVE & MFG. COMPANY
WILLIAMSPORT, PA.

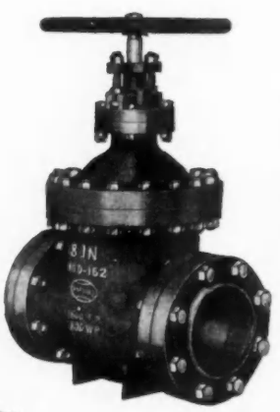
New York Los Angeles Oklahoma City Houston

Mid-Continent Distributors:
Frick-Reid Supply Corporation International Supply Company

Foreign Sales Manager
H. M. HEIN
Room 1405, 152 West 42nd Street
New York, N. Y.

DARLING
GATE VALVES





Darval Semi-Steel, Flanged End Gate Valve with companion flanges bolted on. Made in all sizes for general field use, pipe lines, drilling through, well control and well flow lines.

606X

What Mr. Perkins told the Stenographer wins $50.00

One of the Prize Letters in the Recent Bettis Letter Contest

MINNEAPOLIS OFFICE [redacted] AVE. SO. MINNEAPOLIS, MINN.

-16-

[redacted] COMPANY

OIL PRODUCERS

[redacted] BUILDING

ARDMORE, OKLA.

I'm the stenographer for our concern and in filing the oil journals I noticed your contest announcement. I didn't know what Bettis Protectors were but it didn't take me long to find out.

That afternoon Mr. Perkins, our contractor who knows all about drilling oil wells came in and I put the proposition up to him.

"Sure I know Bettis Protectors", he says, sketching me a diagram and showing me how this little contraption fits right above the tool joint, protecting the "danger point".

"It's just like reinforcing the weakest link in a chain. That's where the rub comes. This little hood also eliminates most of the friction, making smoother, more uniform and more dependable drilling. Very simple to put on too, and no adjustment is necessary.

"You can make lots safer drilling speed with them. And you don't dare make very good time without them. It's too risky. On several wells I've more than paid for Bettis Protectors by time saved in faster drilling.

"Another thing. They'll outwear that string of casing. It's like an automobile tire. You know how a light rubber tire will run thousands of miles, while that tire, if made of metal, say iron against iron, would wear out before you got to the next town. Now Bettis Protectors are the tires that sandwich in between the drilling joints and the casing, and cut out about 90% of our casing troubles.

"I class Bettis Protectors with insurance. Who wouldn't pay the small cost to insure the safety of a 4000' or 5000' hole? No good contractor is going to take foolish chances like that. Yessir, I always use 'em."

* * * * *

Do you need a good salesman? After talking with Mr. Perkins I feel like selling the world on Bettis Protectors.

Vivian McCullough,
Box 474,
Ardmore, Okla.

BETTIS PROTECTORS

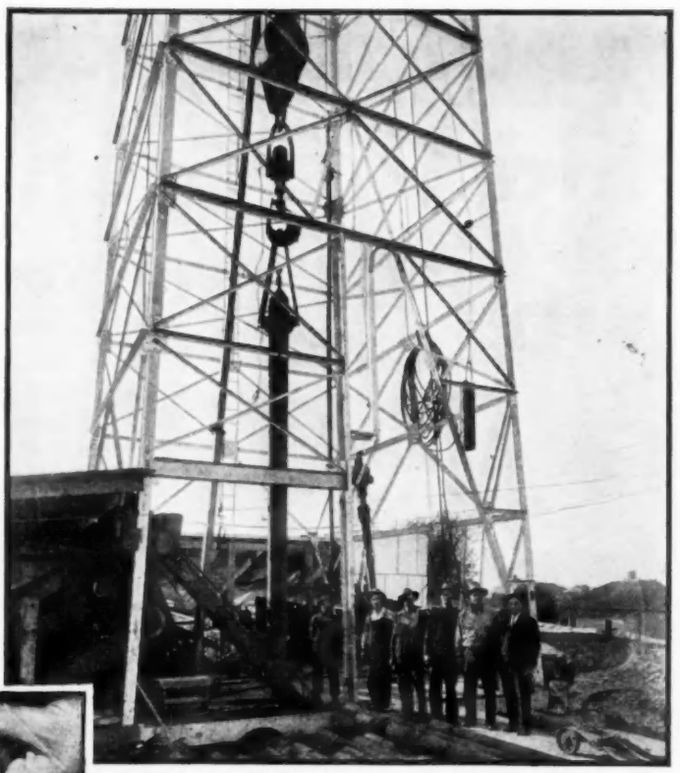
PATTERSON-BALLAGH CORPORATION
1900 East 65th Street, Los Angeles

Texas and Gulf Coast Distributors:
BETTIS SALES CO.,
917 Merchants & Mfrs. Bldg., Houston

Oklahoma Distributors:
BAILEY AND BECKER COMPANY,
210 Tuloma Bldg., Tulsa

New York Office: 39 Cortlandt St.

Carried in stock at Los Angeles, Ventura, Kettleman Hills, Bakersfield, Coalinga and Long Beach, California. Tulsa and Oklahoma City, Oklahoma. Houston, Texas. Hobbs, New Mexico. Calgary, Alberta, Canada. New York City.



SAME SIZE — SAME GRADE

TRU-LAY ROTARY LINE GIVES 104% INCREASED SERVICE

10,000 FEET WITH TRU-LAY

4,900 FEET MAXIMUM WITH ORDINARY WIRE ROPE

The above report was received from an Oklahoma Drilling Company, operating in the Oklahoma City Oil Field.

The drilling rig shown at the right is another Tru-Lay Wire Line installation in the same field.

RELAXED CONSTRUCTION IS THE ANSWER . . . .

The strand construction of Tru-Lay Preformed Wire Rope is clearly illustrated by holding your forefingers as illustrated above at the left. Note how lightly your fingers bear against each other.

Then cross your fingers as shown here. Note the strain on the muscles of your hand. This illustrates the internal stress in ordinary wire rope, because wires and strands are held in position under strain. When you cut ordinary wire rope, the strands straighten out and fly apart like a wound-up clock-spring that is suddenly released.

Relaxed construction is the reason for the remarkable service of Tru-Lay Preformed Wire Rope when used for Rotary Drilling Lines, Sucker Rod Lines, Swabbing Lines and Tubing Lines.

As a result of this relaxed construction, Tru-Lay spools perfectly and does not whip at high speed—making it the *fastest*, sweetest working rope.

Sold in Field Stores by:

Eastern Oil Fields:
NEW MARTINSVILLE SUPPLY CO.
New Martinsville, W. Va.
LLOYD SMITH CO.
Bradford, Pa.
SLICKER PIPE, TOOL & SUPPLY CO.
Knox, Pa.
MITCHELL & GRAHAM
Emlenton, Pa.
MASSETH, PACKER & MACHINE CO.
Butler, Pa.
LAWRENCEVILLE MACHINE CO.
Lawrenceville, Ill.

Mid-Continent Oil Fields:
ATLAS SUPPLY CO.
Tulsa and Muskogee, Okla.
FARLEY MACHINE WORKS CO.
Arkansas City, Kans.
PELICAN WELL TOOL & SUPPLY CO.
Shreveport, La.

Rocky Mountain Oil Fields:
COLONY CORPORATION
Rock Springs, Wyoming

California Oil Fields:
AMERICAN CABLE COMPANY, *Inc.*
San Francisco, Calif.
W. B. CORNISH
3924 Baker Ave., Bell, Calif.
ALCO OIL TOOL COMPANY
Compton, Calif.

AMERICAN CABLE COMPANY, *Inc.*
New York Central Building, 230 Park Ave.
New York, N. Y.

District Offices: Emlenton, Pa., Tulsa, Okla., San Francisco, Calif.
An Associate Company of the American Chain Company
Incorporated

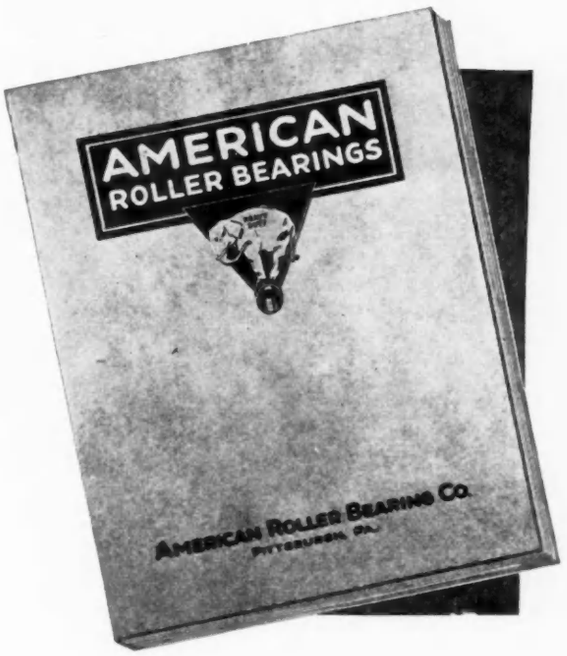
AMERICAN CABLE COMPANY

WIRE LINES

TRU-LAY *Preformed* and CRESCENT *Standard*

THE STANDARDIZED HEAVY DUTY AMERICAN ROLLER BEARINGS BEARING OF THE OIL INDUSTRY

A Catalogue



on just one subject . . .

THIS big 76-page catalogue puts at your fingertips sketches, tables, details and photographs representing over 15 year's concentration on one subject . . . **HEAVY DUTY Roller Bearings for radial loads.**

For example . . . installation drawings of **retaining plate construction, dowelling inner races, controlling thrust . . .** drawings of usual methods of installing bearings on specific items of numerous types of oil field equipment . . . photographs of typical machinery for drilling that are equipped with these bearings.

American bearings are manufactured in three types: "Medium Duty," "Heavy Duty" and "Super Heavy Duty." Complete sizes are listed in this catalogue. **Yours for the asking.**

American Roller Bearing Co.
PITTSBURGH, PENNA.

Pacific Coast Representatives

Frank M. Cobbledick Co.
1031 Polk St.
San Francisco, California

Edward D. Maltby Co.
321 W. Pico St.
Los Angeles, California

HEAVY DUTY
ROLLER BEARINGS

We shall be glad to send this catalogue promptly to any manufacturer or user of Heavy Duty machinery or equipment - - - - - Send coupon below.

AMERICAN ROLLER BEARING CO.,
Pittsburgh, Pa.

Without obligation, please send me your catalogue of Heavy Duty Roller Bearings.

Individual .....

Title .....

Company .....

Address .....

MAIL THE COUPON FOR THIS INFORMATIVE CATALOGUE

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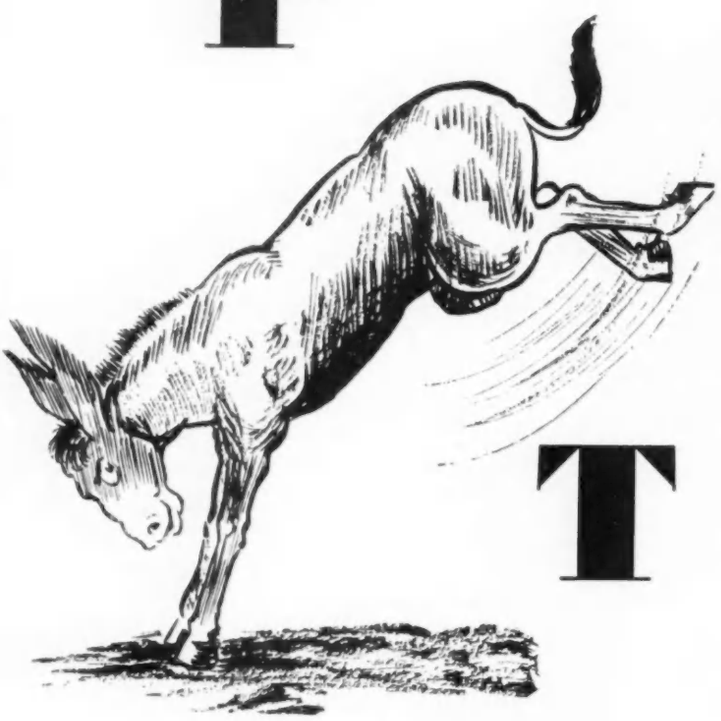

T

KICK-OFF UNIT

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June 26, 1931
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Editor

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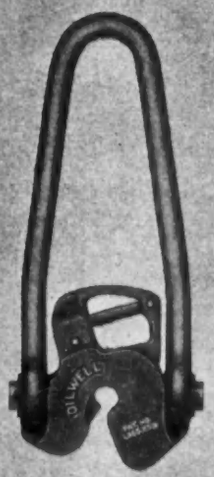

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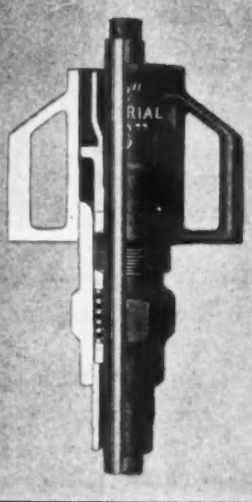

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THE OIL WEEKLY

VOLUME 62, NO. 2 JUNE 26, 1931

THE WEEK'S NEWS

Higher Prices Now Paid for Curtailed California Crude

Los Angeles.—Concerted effort to stabilize the crude and gasoline market in California resulted in higher prices June 19 and 20. Increases of from 20 to 40 cents a barrel for crude and 5½ cents a gallon for gasoline were initiated on the morning of June 19 by Standard Oil Company of California, followed by a general advance in postings of all major companies the following day. The move to higher price levels follows the launching of a constructive program of production and refinery curtailment and acts as an incentive to rigid adherence to controlled supply.

In inaugurating higher postings for crude oil, Standard Oil Company of California announced that the new prices would apply only to oil produced in accordance with the allowable quantities set by the California statewide curtailment committee. Further, that this company's action was intended to point the way to end the most disastrous economic breakdown ever experienced by the industry of California, and to remove a serious menace to the economic welfare of the community. In announcing the adoption of higher crude and gasoline prices by Union Oil Company, President L. P. St. Clair stated that increased prices would only be paid for oil that is produced in accordance with the allotment quotas fixed under the curtailment program. The announcement also warned producers and refiners that the new, higher prices could only be maintained if proper curtailment of the state's crude production is immediately made effective and its continuance is assured.

Prices of Signal Hill crude now range from 65 cents to 81 cents a barrel, as compared with former prices of 65 cents for the lowest gravity crude and 35 cents a barrel for 30 gravity oil. This represents an advance for 30 gravity crude at Signal Hill of 46 cents a barrel, while crude in other Los Angeles basin fields was advanced as much as 40 cents a barrel for the highest gravities. Both Standard Oil Company and Union Oil Company failed to post prices for Kettleman Hills crude, whereas Associated Oil Company posted a price of 66 cents a barrel for 30 gravity Kettleman Hills oil.

Full details of the prices fixed for different gravities in the different fields will be found on page 49.

Further Curtailment of Oil Imports Is Expected

Washington.—Indications that not all of the four oil companies which have been curtailing imports during the past three months are involved in negotiations understood to be under way with South American governments with a view to securing permission to curtail or cease production for a time are seen in the fact that only Robert G. Stewart, president, and Harold Walker, vice-president, of the Pan-American Petroleum and Transport Company conferred yesterday with Secretary of Commerce Lamont, a member of the Federal Oil Conservation Board.

Officials of the department refused to discuss the conference other than to say that it concerned the oil situation generally. However, it became known last week that the negotiations were under way, and it is generally assumed that Secretary Lamont's visitors informed him that the present situation in the domestic oil industry was such as to make importation uneconomic and that the expiration of the voluntary curtailment of imports at the end of this month will not result in a materially heavier inflow of foreign oil.

It is understood that Pan-American Petroleum and Transport Company's desire to restrict its foreign production was the result of the price situation, which made it cheaper to buy East Texas oil than to produce it in South America and ship it here.

Magnolia Abolishes Gravity Price Scale in Mid-Continent

Dallas, Texas.—Following the announcement of higher prices in California, Magnolia Petroleum Company surprised Mid-Continent producers on the morning of June 20, by the announcement that purchases would no longer be made on a gravity basis throughout the Mid-Continent producing area. While no explanation accompanied the new schedule of prices posted by this company, it represents the abolishment of differentials which have been in effect since November 22, 1922. Under the new price schedule, all crude purchased in the Mid-Continent area will be on a flat-price basis, somewhat along the same lines as was the general practice

of purchasers prior to the introduction of the gravity scale more than eight years ago.

Comparison of new prices with former gravity postings reveals that the new scale represent a decline in most instances. On the other hand, the new prices also represent an increase for oil of the lower gravities.

Following are the principal quotations posted by Magnolia Petroleum Company for the various Mid-Continent fields:

North and West Central Texas, 35 cents a barrel.

Central East Texas (including Mexia, Wortham, Corsicana-Powell, Panola County and Lytton Springs), 34 cents.

East Texas, 20 cents.

Thrall, 35 cents.

Panhandle Texas:
Gray County, 30 cents; Carson-Hutchinson Counties, 26 cents.

Oklahoma:
Oklahoma City, Cushing, Yale, Morrison, Wewoka and Seminole, 36 cents.
Cement, Duncan and Walters, 32 cents.
Hewitt and Graham, 28 cents.
Healdton, 25 cents.

Kansas:
Augusta, 30 cents.

Louisiana:
Bull Bayou, 36 cents.
Haynesville, 27 cents.
Pine Island, 32 cents.
Cotton Valley, 25 cents.

Arkansas:
El Dorado and Rainbow, 25 cents.

Commission Withholds Cranfill Plan Approval; Hearing June 29

Austin, Texas.—The Texas Railroad Commission has under advisement request made June 22, for an order putting into effect the "Cranfill Plan," by a group of 30 East Texas operators headed by Captain J. F. Lucey, chairman of the committee of seven created to administer the plan. The request was made before the commission with Governor Sterling in attendance. Opposition was expressed by members of the group against the governor's plan for calling a special session of the legislature, on the ground that it was unnecessary, and that some law inimical to the interests of the oil industry might be passed.

The Cranfill plan of proration in East Texas calls for the withdrawal of 300 barrels of oil to each 20 acres of production each 24-hour period.

The commission will hold a hearing June 29 on East Texas only, revising a former plan to hold a hearing on the entire state.

Governor Sterling, feeling that any agreement would not last long without some legal power behind it, sought reasons why a special session of the legislature be not called as calls are coming in constantly requesting such a special session. Chairman Lucey refused to advocate or oppose such a move; but Mr. Cranfill, and others, offered active opposition to a special session, pointing out that the plan is now 80 per cent in effect although no action of the railroad commission has been taken. Major oil companies, however are still following the proration orders previously issued by the commission, except on offset wells which are near wells cut to the 300-barrel a day plan.

Only 10 violators of the plan remained Monday morning, June 22. These included: McIntyre Drilling Company, Read & Read, Gibson & Johnson, Jim Pollard, Pilot Oil Company, Magnolia Petroleum Company, Arkansas Fuel Oil Company, Smitherman & Green, F. & M. Drilling Company, Primrose Petroleum Company, Lide-Rowe Oil Company, and K. & P. Oil Company. Tidal Oil Company and Prairie Oil & Gas Company are also violating in the case of one well each. It was pointed out that some of these companies have already come into line and others have signified their intentions of doing likewise.

Demand for Oil

J. R. Parten, secretary of the arbitration committee, was called upon to analyze the market outlet for East Texas production. He stated that as yet he had been unable to secure the nominations for the district, but that for the week ending June 10, tank car runs were 111,708 barrels, pipe line runs 184,852 barrels, and local refinery consumption 21,299 barrels, or a total of 318,859 barrels daily for that week. He pointed out that the Cranfill plan called for

(*Continued on page* 66)

Austin, Texas.—In a statement made June 23, Governor Sterling said that if he convenes the legislature it will be for the purpose of legislation on the oil question and to consider the congressional redistricting bill. Of the two important matters to come up for consideration, the oil question will be taken up first.

The governor repeated his belief, expressed during the conference of oil operators with himself and the railroad commission, that the "Cranfill plan" will not be effective without placing some legal club over the heads of East Texas operators.

It is apparent that the announcement of a special session will be made the latter part of the week as much pressure is being brought to bear from all quarters by oil men, and with little apparent opposition to legislation of some description.

Too, it is apparent that the Texas Railroad Commission does not intend to sanction the "Cranfill plan," at least until after Monday, June 29, when a hearing on this particular subject will be held. Too, issuance of an order, according to law, is not possible until after 10 days' notice of a hearing has been posted.

Ray Richmond, proration umpire for East Texas, reported to the commission June 23 that there were 21 violators of the "Cranfill Plan" operating 38 wells for a total of 42,907 barrels above the allowable under the plan. Richmond listed the following operators as violators:

Arkansas Fuel Oil Company, Magnolia Petroleum Company, Smitherman and Greer, Robert Boles, Atlantic Oil Producing Company, Primrose Refining Company, F. & M. Drilling Company, Merren & Mays, G. W. Hindman, Blackwell Oil & Gas Company, Whittle & Kavanaugh, H. W. Elliott, Texas Unity Oil Company, J. Z. Werby, Lide & Rowe, McIntyre Drilling Company, Bill & Dave Oil Company, Lide Oil Company, Taylor Refining Company, Jim Pollard, Consolidated Oil Company, and Read & Read.

Trinidad Producers Fall Into Line

By ROY E. LEIGH
Associate Editor

DRILLING activity in Trinidad has reached the lowest ebb of recent years, with only 12 rigs in operation as compared to an average of about 35 during 1930 and from 40 to 50 during 1928 and 1929. Production also is beginning to show slight declines, although it is still running slightly above the average for 1930.

This curtailment of drilling is part and parcel of the world movement, but is accentuated by certain local conditions, including a shift in outlets from the United States to the United Kingdom and substantial increases in production from three different fields. Apex (Trinidad) Oilfields, Ltd., United British Oilfields of Trinidad, Ltd., and British Controlled Oilfields, Ltd., have accounted for the production increases mentioned by drilling done during 1930 and 1931 in the San Francique, Parrylands, and Palo Seco fields.

United British Oilfields has reduced its drilling activities by about 80 per cent, British Controlled Oilfields by about 60 per cent, and Apex Oilfields by about 50 per cent; while Trinidad Leaseholders, Ltd., Trinidad Oil Fields Operating Company, Ltd., and Trinidad Central Oilfields, Ltd., have suspended drilling entirely, stacking their machinery and dismissing all or a majority of their drilling personnel.

Students of the situation believe that this state of affairs can continue only for a short time, as the colony enjoys a favored position within the British preferential tariff wall and production probably cannot long be maintained at its current level with so few rigs in operation. In these days of high compression motors, Trinidad operators have suffered less from the general effects of over-production than have producers of other grades of oil, this by reason of the fact that aromatic hydrocarbons contained in certain Trinidad crudes give to gasoline manufactured from them a high anti-knock rating.

▼ ▼

IT is remarkable, considering the volumes of oil known to exist within reach of the drill in the United States, Venezuela, Colombia, Persia, and the East Indies,—not to mention Iraq, whose output has not yet reached the markets,—how much progress has actually been made toward stabilization of production by restraint of drilling all over the world. Production has been stabilized throughout South America, the East and West Indies, Persia, Burma, and elsewhere. American producers as a whole have shown a commendable spirit of cooperation.

Field by field, and country by country, they fall into line, if not voluntarily then by force of necessity and low prices.

Looking over the world, we find irrational drilling going on only in Russia, Roumania, and East Texas. Negotiations are under way by which competing producers in the two latter countries hope to develop rational bases for cooperation in the control of unnecessary drilling.

Russia, apparently, is the only country in the world lacking both in the spirit and desire for cooperation and stabilization. The Russian situation, so it appears, must be allowed to progress a little further before factors which may be expected to check its abnormal growth will come to bear.

▼ ▼

New Fields in Prospect

G. W. Halse, chief geologist for British Controlled Oilfields, Ltd., prophesied in a recent address before the Oil Industries Club of London, that the restoration of economic equilibrium may be followed by the opening up of one or two new producing fields in Trinidad, a colony which displaced Burmah as the leading oil producing unit of the British Empire during 1929. It would appear that Standard Oil Company of New Jersey is also an adherent of this theory, as representatives of its Trinidad subsidiary are said to have been engaged in the acquisition of lands in the vicinity of Pointe-a-Pierre, a region which has not heretofore figured in oil developments, apart from the construction and expansion of the Leaseholds refinery.

Other plans afoot indicate that prospecting work may be undertaken, if not soon then at some future time, in virgin areas lying outside of the districts to which drilling heretofore has been confined. Captain James A. Goodwin, former attorney and general manager for Trinidad Petroleum Development Company, Ltd., (British Controlled Oilfields), is said to be the instigator of one such plan. Practically all of the oil fields of Trinidad are situated in an undulating basin lying between the central and southern ranges and between San Fernando, Mayaro Point, Guayaquayare Bay, and Icacos Point, the latter the southernmost tip of the island.

Following is a generalization of the situation as now or recently existing with respect to drilling and production activity among the several companies operating in the colony, according to latest reports:

Company	Rigs in Operation	Approximate Daily Average Production
Apex (Trinidad) Oilfields, Ltd.	4	11,225
British Controlled Oilfields, Ltd.	2	3,565
Trinidad Leaseholds, Ltd.	1*	3,450
United British Oilfields of Trinidad, Ltd.	1	3,040
Kern Trinidad Oilfields, Ltd.	4	1,150
Trinidad Lake Asphalt Operating Co., Ltd.	.	1,100
Trinidad Central Oilfields, Ltd.	0	930
Trinidad Oilfields Operating Co., Ltd. (Standard Oil Company of New Jersey)	0	460

*Engaged in cleaning out work, not in drilling.

Curtailment of drilling on the part of United British Oilfields is explained in the Royal Dutch Company's annual

report recently made public as having been caused by "insufficiency of outlet for the increasing production." This increasing production comes from a sand underlying the Parrylands field near Point Fortin, which has been made available as a result of the conquest of high gas pressures found above it, the "improved method of drilling" mentioned in the above-named report having reference to the use of weighting material and to a special hook-up for the control of gas pressure.

Retrenchment both in drilling and production by Trinidad Leaseholds is doubtless due to the increase achieved by Apex Oilfields, Ltd., at Fyzabad, the former company being the purchaser of the latter's output under long-term contract.

Apex Oilfields, Ltd. has been very successful in recent drilling on the flank of the Fyzabad dome, increases from this source making possible a reduction in expenditures for further drilling.

British Controlled Oilfields has been fairly active and equally successful in the development of crown lands in the Palo Seco district, near the south coast, which are held under license from the Trinidad government by Trinidad Petroleum Development Company, its operating subsidiary.

Standard Producing Only Local Needs

Trinidad Oil Fields Operating Company, subsidiary of Standard Oil Company of New Jersey, has dismissed its entire drilling organization and is producing only enough light oil to supply its colonial trade through the medium of its small topping plant near Brighton. Wells producing heavy oil have been shut in, as also has the company's discovery well on lands near Pitch Lake which are held under lease or sub-lease from one of the local subsidiaries of General Asphalt Company. This discovery has been described as one of considerable potential importance, albeit no oil has yet been marketed from this new source. The shut-down in this case is believed to have been due as much to the presence of a very poisonous gas,—the lives of half a dozen or more men already having been lost on this account,—and to a high sulphur content which makes refining difficult in absence of special facilities, as to reluctance to open up a new field during times of distress and over-production. There seems to be no doubt, however, that this reserve will be developed at some future time.

Trinidad Central Oilfields, a pioneer company whose operations formerly were confined to Tabaquite, Lizard Springs, and elsewhere, has developed a fairly substantial production during the last two years near Guapo, on the west coast, between Point Fortin and Pitch Lake. This company, however, has fallen into line with its neighbors in the temporary suspension of drilling.

Drilling Obligations Lifted

The Trinidad government, in recognition of the inability of producers to market surplus output, has granted a moratorium on annual minimum drilling obligations, a characteristic feature of license contact covering crown lands and lands under which mineral rights are retained by the crown, as also have certain owners and sub-lessors of private lands, a measure which has given considerable relief to licencees, sub-lessors, and producers generally.

It is reported that crude sales of such magnitude as virtually to fix market values in this colony, where there are no posted prices, have been consummated at a figure quoted as approximately 57 cents per barrel, for oils ranging between 20 degrees and 30 degrees A. P. I. Drilling and production costs are higher in Trinidad than in the United States and Venezuela, to name only two examples, and this is a factor which comes to bear more quickly there than in fields where the percentage of flowing production is greater.

Daily Production

Daily average output of the colony as a whole during the first four months of the current year, according to figures derived from the latest official statistics available in this country, are as follows:

Month	Daily Average
January	26,492
February	26,590
March	27,243
April	26,304
May	25,433

These figures compare with an average of 25,807 barrels per day through 1930. It will be noted that production fell below the 1930 average during May; and the assumption is that it will remain below this average during the balance of the year. It is not likely, considering all the factors which operate in this connection, that Trinidad production will be allowed to fall below a daily average of 20-25,000 barrels per day, without drilling being resumed.

C. H. Lieb and H. I. Fry, president and vice-president, respectively, of Standard Oil Company of Venezuela, have assumed control of the management of Trinidad Oil Fields Operating Company, Ltd., following the recent death of Charles Price, holder of the company's power of attorney, and the return to the United States of Joe Hull, drilling superintendent.

A. F. Dabell, formerly field manager for British Controlled Oilfields, has succeeded Capt. James A. Goodwin as attorney and general manager. H. V. Lavington, assistant general manager, has returned to Trinidad from Ecuador, where he had charge of a test of certain producing properties made on behalf of his company.

Lt. Col. H. C. B. Hickling, attorney and general manager for Apex, (Trididad) Oilfields, and Hugh McRea, purchasing agent and general storekeeper for Trididad Leaseholds, are both in England, on business and pleasure.

A SITUATION IS DEVELOPING

HOW have American oil companies weathered the crisis in comparison with European organizations? How did the year 1930 affect their relative positions? Figures are now available by means of which such facts can be determined.

What are the advantages and handicaps of European and American oil groups? What powerful factors are operating against one group and in favor of the other?

How does the Standard now rate in comparison with the Royal Dutch-Shell, in point of capitalization, production, and earnings? Which is the greater organization? In assets? In earning power?

How, for another example, does the Gulf Oil Corporation compare with Anglo-Persian Oil Company, Ltd., a company of approximately equal capitalization? Which produced the most oil and which earned the most money? One of these companies produced only two thirds as much oil and yet earned twice as much money. Which? Why? How? How did their profits per barrel compare?

H. J. Struth, Staff Economist, analyzed the situation with respect to the domestic industry in The Oil Weekly of June 19. With his figures as a basis for comparison (readers should save his article), Roy E. Leigh, Foreign Editor, will offer a similar analysis of the incomes and earnings of important foreign oil companies in The Oil Weekly next week.

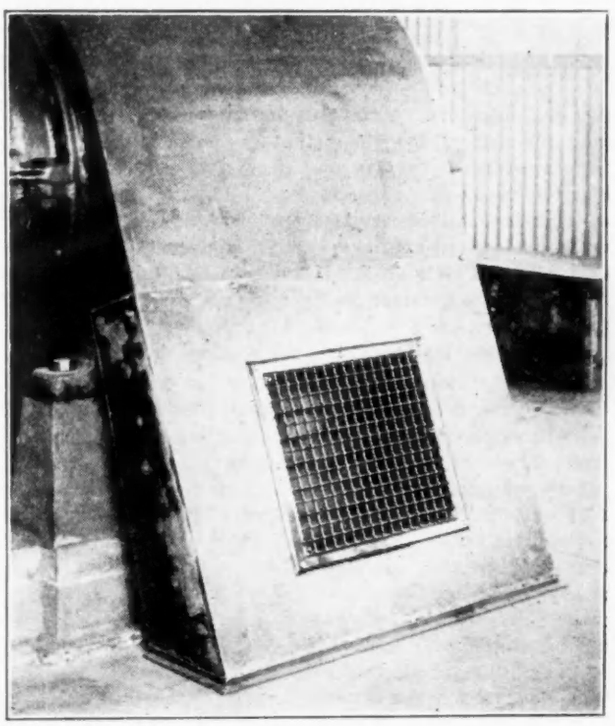
Motor Heat Controlled *in new* Sinclair Pump Station

By J. C. ALBRIGHT

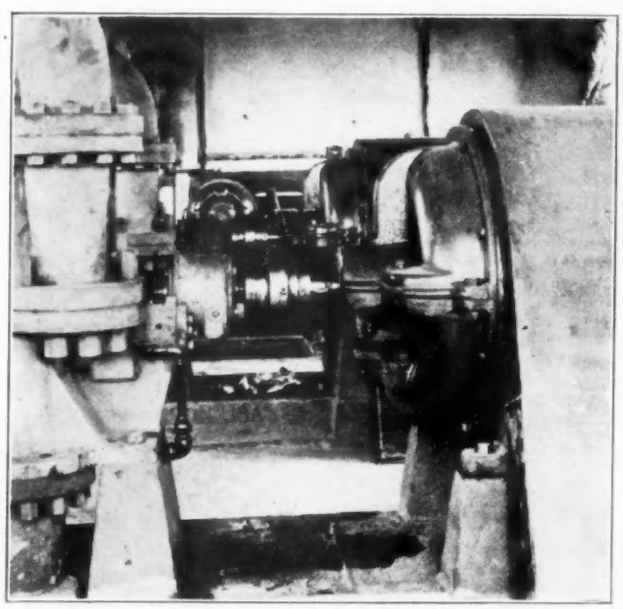
DISPOSITION of motor heat to make the interior of pipe line pump stations more comfortable is a feature recently constructed into stations of Sinclair Texas Pipe Line Company between the Oklahoma City field and Coffeyville, Kansas. Ordinarily little attention is paid to controling disposition of the heat generated by the current passing through the motors in pump stations; the result being that in summer this heat is an annoyance to comfort and in winter, when it is valuable, the heat is dissipated. In some instances the heat from the motors in summer becomes a factor in keeping bearings cool, in addition to the discomfort occasioned those whose duties keep them inside the room. In winter the same heat, properly handled, can lower the cost of keeping the interior heated, and in moderate climates would make unnecessary the installation of any other method of heating.

The Oklahoma City-Coffeyville line is 12-inch and the booster stations are all alike in design and equipment, having two Byron Jackson three-stage oil line pumps capable of handling 60,000 barrels of oil daily when operated at 3550 revolutions per minute. The first one in the series has an impeller 10⅛ inches in diameter, taking the oil from the main line through by-pass connections and delivering it at approximately 345 pounds to the suction of the other. The second pump has an impeller 9 13/16 inches in diameter and delivers the oil back into the main line at 800 pounds pressure. Each pump is connected by a Fast's self-aligning coupling to a General Electric Type FT-559-AY form EL 2200-volt three-phase 60-cycle induction motor, delivering 500 horse power. Normal operating temperaature of the motors in approximately 104°F.

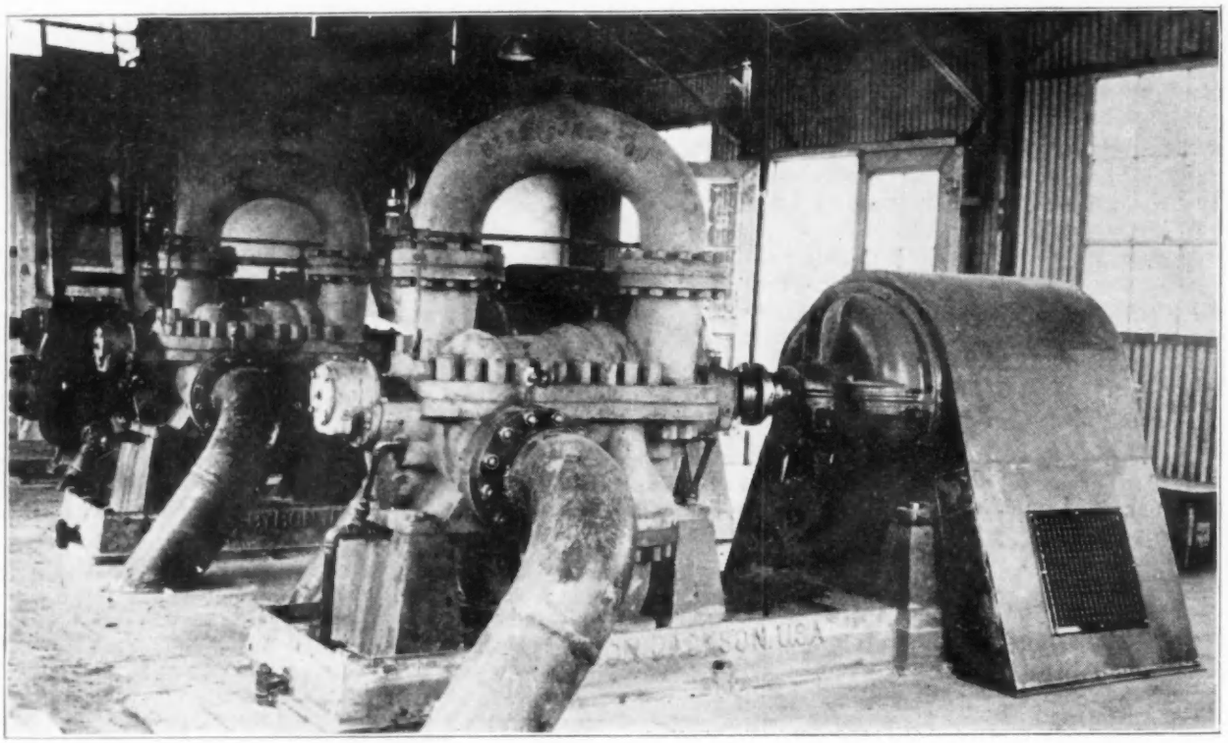
In excavating the foundation pits for the motors, pumps and wall piers, a duct was dug running the full length of the building, extending to a point about 10 feet away from each end of the pump rooms, terminating in a concrete box riser the upper ledge of which is about 18 inches above the



The Ventilator Completed.



Close Hook-Up Between Motor and Pump



Interior of Sinclair-Texas Pipe Line Pershing Booster Station.

level of the ground. A slope of one inch to 10 feet was provided for drainage. A pipe line drain was run from the lower opening in the duct to direct the water which may enter the duct to flow to a lower level away from the building. This duct is 18 inches in depth when finished, 36 inches in width, providing sufficient space for the hot air disposal and to furnish cool air for circulation through the motors. At each side of the motors, an opening was provided when the cement foundation blocks were poured through which the hot air may be directed to the duct below.

After the motors and pumps were set on their foundations and the cement floors finished, the combination hot air radiators and motor cooling connections were set in place. These were built on the job by the construction welders, who utilized 10-gauge sheet steel. They were made to fit closely the skirts of the motor housings, extending to the floor with an angle iron stiffener welded to the lower end, covering completely the opening left in the floor leading to the air duct below. The upper end was fastened to the skirt of the motor housing by stove bolts. A hole was cut in the side of each radiator-ventilator housing in which was inserted and fastened by stove bolts, the general type of shutter operated ventilator protected by a heavy wire grille. The operating lever attached to the shutters extend through the grille so that the operator on duty may open or close them easily.

The openings outside the building where the duct terminates are covered with 10-gauge sheet steel roofs built in a flattened pyramid with the eaves extending a sufficient distance over the ledge of the duct openings to prevent rain from blowing into them. When the station is in operation during warm weather, the shutters remain closed in the ventilator housings, permitting the centrifugal action of the motor armatures to bring cool air from outside the building through one end of the duct and discharge it through the opposite ventilator housing back into the duct to travel from the duct to the other end of the building. The only heat that reaches the building in this manner is through radiation from the motor housing.

When cool weather approaches and heat is needed in the pump room, the duct openings outside the building are closed to prevent the entry of cold air to the motors. Each shutter may be opened by a flick of the operating lever actuating the shutters to allow the heated air passing around the inside of the motor to be distributed through the pump room and pipe line station office. This method of pump room heating may or may not need to be supplemented by additional heating facilities, depending upon the severity of the weather. With an open winter similar to the one just passed, sufficient heat should be generated through the operation of 1000 horsepower to prevent the room from becoming uncomfortably cold.

Tying in the last connection two hours before starting Pershing Station of Sinclair-Texas Pipe Line Company.

Salt Water System Handles Disposal Economically

By EARL S. POST

POLLUTED water, hazard of many Texas fields producing from lime rock formations in Texas, has been successfully overcome at Salt Flat, Texas, (Bruner), where more than 90,000 barrels are disposed of daily. In operation but eight months the system of disposal has saved operators thousands of dollars in damage suits and other claims.

This system, owned and operated by Salt Flat Water Company, was placed in operation July 1, 1930. Since that time it has attracted wide interest among operators in fields where water is a detriment.

So successful is the method of disposing of water in this field, that a similar system is being planned for Darst Creek field, which also is experiencing considerable difficulty with water.

Constructed at a cost of $349,111.21, the plant offers a most inexpensive method of disposing of waste water, everything considered. When finally paid, it is estimated that the total operation cost will not exceed $.0025 per barrel of water, including the payment of claims, ligitation, etc.

To more clearly understand the workings of the water disposal system, it is well for the reader to know a brief history of the field and under what circumstances the plant became necessary. The Salt Flat Bruner field, just north of the Luling city limits in Caldwell County, was opened late in 1928. The subsequent development brought a flush production of approximately 45,000 barrels of oil daily, together with a great amount of water. The water was disposed of through streams and the San Marcos river.

The onrush of polluted water brought complaints from farmers, stock raisers, etc., in the areas below the field. The obvious outcome was the filing of claims against the operators in the field, necessitating law suits, worry and other hindrances to the systematic development of the field.

Plans Discussed

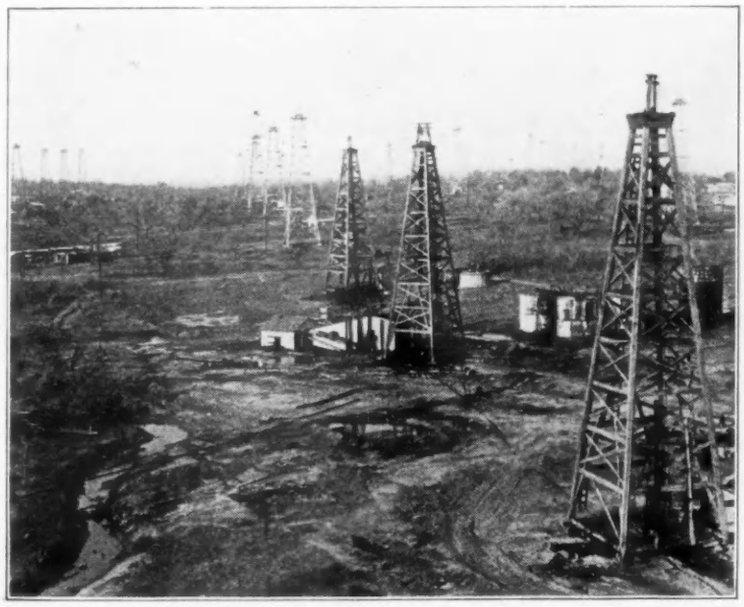
During 1929, operators made numerous attempts and discussed various plans for the relieving of this situation. The result was the organization November 1, 1929, of Salt Flat Water Company by nine of the 16 producers in the field. Exactly two months later, actual construction was started on the gathering and disposal system. July 1, 1930, saw it placed into operation, bringing the water disposal worries of these operators practically to an end.

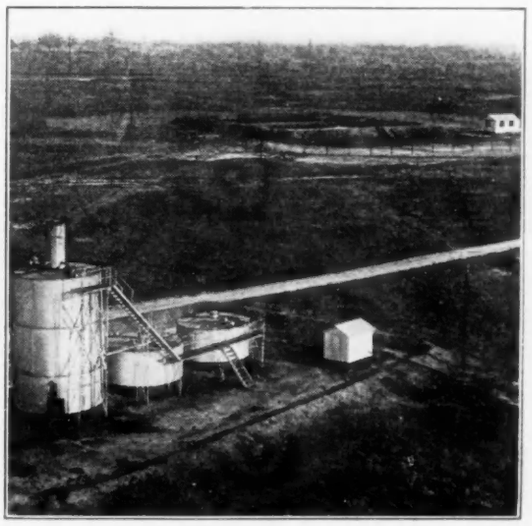
This system cares for approximately 90,000 barrels of water daily, or within 15,000 barrels of the entire field's output.

The remainder of the production of water is from leases of companies having only a few wells, and not participating in the operation of this system.

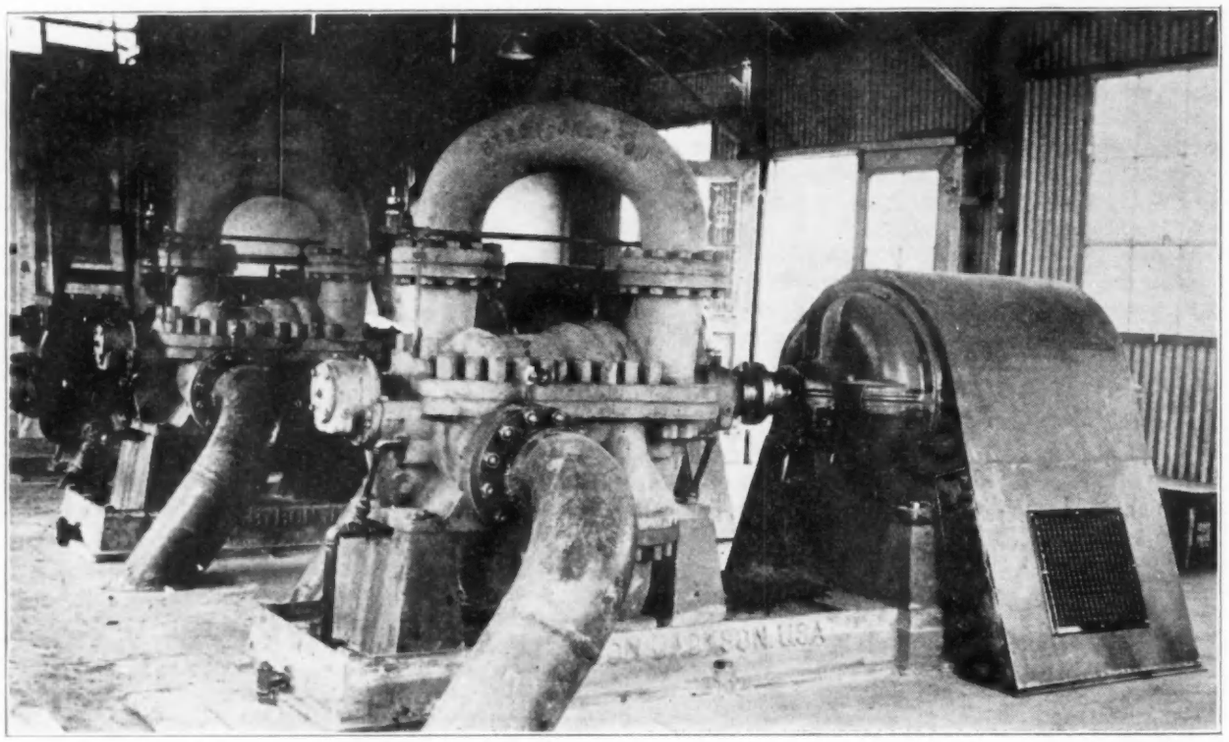
The participating companies were assessed $1700 per well for connections. In addition, a specific charge of $.0005 per well is made for the disposal of the water, but this

Below: Topography of the Salt Flat field permits gravity flow of salt water to small field tanks from which it is pumped to the main reservoir





Lease tank battery, field pit and pump station. A small line takes salt water to the pit, from which it is then pumped



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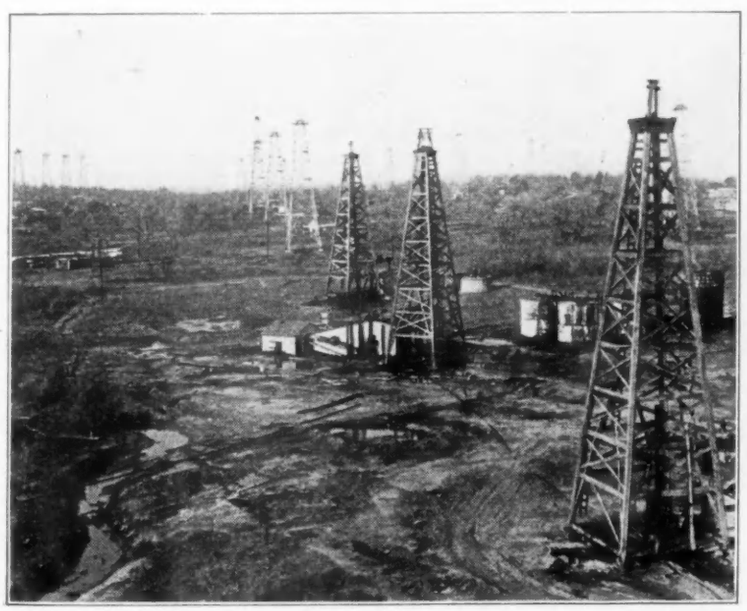

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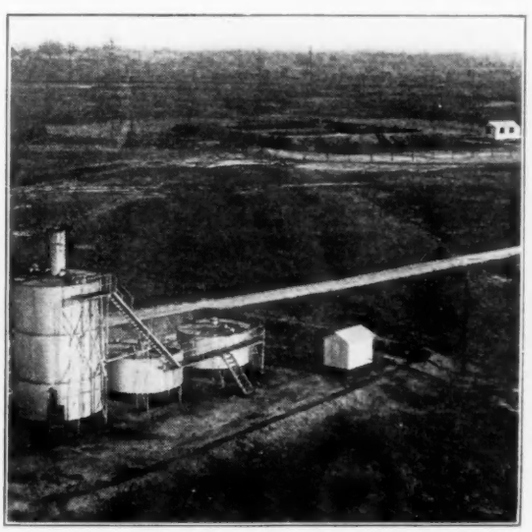


Lease tank battery, field pit and pump station. A small line takes salt water to the pit, from which it is then pumped

ratio has been figured to pay for the original cost of the plant. The monthly "dividends" are charged against the original $1700 per well investment. As soon as this assessment is paid, the cost of operating this system will be prorated to approximately $.0025 per barrel of water.

The system is comparatively simple in its plan and operation. It is composed of a series of six large pits in various parts of the producing area of the field, connected by a 20-inch pipe line to two reservoirs. Simplicity, however, accounts for the perfection in disposing of waste water.

Starting near the north boundry of the field, the pits are spaced less than one mile apart. The water flows by gravity from tank batteries on participating companies' leases to these pits and in turn is pumped through the main pipe line a distance of approximately four miles to the 93 and 43-acre reservoirs. During rainy periods when the San Marcos river and streams are at a high level, the gates are opened and the water released.

The flow of water is limited in proportion to the height of the river to prevent pollution of the stream. This outlet, together with the tremendous evaporation under the hot sun, assures sufficient storage for the water at all times.

Pits in Low Places

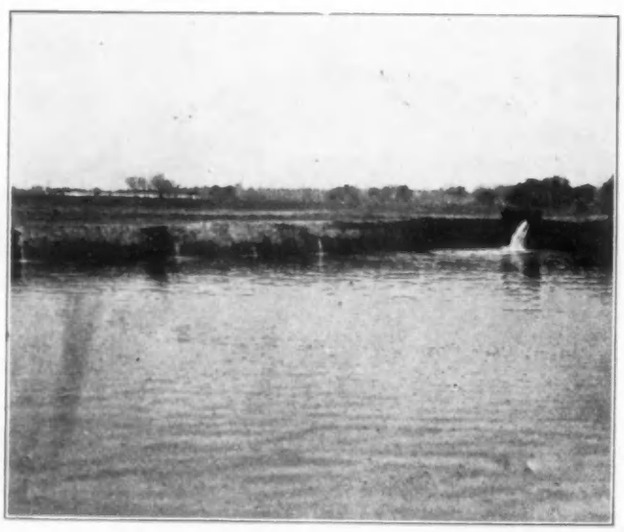
The pits are constructed of dirt and creosote timbers. They are located at low spots in the field so as to insure a steady flow from the tank batteries nearby. Concrete and sheet metal buildings house the pumping plants at each pit.

It is interesting to note that the operating companies' interest in the water is released as soon as it is turned into Salt Flat Water Company's field pits. The water company, however, cleans the basic sediment and burns the waste oil at the tank batteries at frequent intervals. This concern is responsible for any damage done by the water after it flows into the field pits.

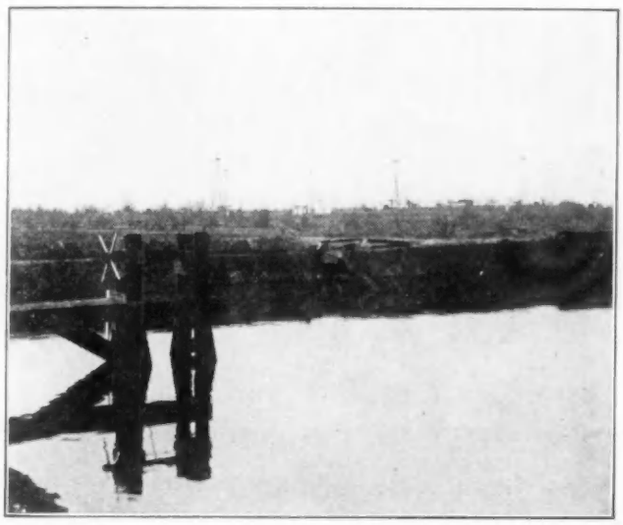
The six pits used for gathering and storing the water in the field were constructed at a cost of $41,728.54. These figures include pumps, sites and equipment.

The first field pit has a capacity of 14,000 barrels. The pumping equipment at this station has a capacity of 834 gallons a minute. The total dynamic head at the pump is 125 feet.

The second pit has a total capacity of 4300 barrels. Two pumps with capacities of 183 and 60 gallons per minute, respectively, pump the water through the trunk line. The total dynamic head is 116 feet.



Water flowing from the main pipe into a field pit. Water is pumped from one pit to another in moving to the main reservoir



A field pit

The next pit is unusually small, having a capacity of only 2800 barrels. The pumping equipment here has a capacity of 183 barrels per minute with a total dynamic head of 71 feet.

Pit four has 12,000 barrels capacity and has a pump station of 1550 gallons per minute capacity. The total dynamic head is 127 feet at this station.

The fifth pit is capable of handling 17,000 barrels. The station is rated at 1910 gallons per minute capacity and the total dynamic head is 80 feet.

The sixth or last pit is the second largest of the entire group, having a capacity of 28,600 barrels. The pump has a total capacity of 2565 gallons per minute. The dynamic head is 89 feet.

A 10-inch cast iron pipe line connects the first two pits, while a 12-inch cast iron line connects the latter three pits. The first line is 5467 feet long and was constructed at a cost of $11,527.72, while the latter is 17,079 feet long and was constructed at a cost of $40,247.32. All pipe lines are of cast iron Belle Spigot type. Leadite was used for the joints.

After the water leaves the field, it is carried to the reservoirs, two miles south of Luling, through a 20-inch cast iron pipe line. This line, 22,627 feet long, was built at a cost of $99,684.40.

Reservoirs

The reservoirs are one of the most interesting parts of the entire system. The first one constructed is known as the Webb reservoir and has a total storage capacity of 1,500,000 barrels. This project utilized 43 acres and cost $7400 to build. There was 31,600 cubic yards of dirt moved in its construction.

The main source of storage occupies a 93-acre tract just south of the Webb tank and is known as the Jacobs reservoir. It was constructed at a total cost of $114,166.12 and has a capacity of 6,500,000 barrels. A total of 102,304 yards of dirt was moved in the course of construction, the majority of which was used in the building of the earthen dam. A creosote piling core wall was constructed through the center of the dam at a cost of $16,365.72. The dam has a crown of 50 feet. Its outlet is through three huge concrete slushways, opening into a channel to the San Marcos river.

Pollution has been a menace in the original Luling field since its beginning in 1923. Controversies, legal tangles, etc., constantly confronted the operators during the early days of the field. The undesirable elements, however, were

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not present in as great a measure as in the Salt Flat field or in the Darst Creek field, which soon is to have a similar disposal plan. Luling field operators found relief by flowing water into the San Marcos river and nearby creeks, but Salt Flat was not so fortunate.

Corrosion a Factor

Corrosion from the highly polluted water has been detrimental to Salt Flat and Darst Creek since their early lives, and many attempts have been made to overcome this difficulty.

Recently the corrosion in the field has been spread to lead lines, gun barrels, wire lines, stock tanks, tool houses and other pumping and drilling equipment. During the first year, the sucker rods and tubing were the only places in the Salt Flat field to be affected.

An analysis of the water in Salt Flat field is indicative of its corrosive elements and importance of properly disposing of it. The following analysis was made from water secured out of a well in the southern portion of the field.

Radicals	Parts per million
Sodium	12,093
Calcium	2,595
Magnesium	839
Chloride	24,300
Sulfate	106
Bicarbonate	744
Total	41,870
Hydrogen Sulfide	410
Comparison Data:	
Primary Salinity	72.6 per cent
Secondary Salinity	25.7 per cent

The water is corrosive for the following reasons:

1. Secondary Salinity: Water is said to be corrosive if the secondary salinity is greater than two per cent.

2. Corrosion Constant: The corrosion constant for this water is 56.7 (positive). Water is corrosive if it has a corrosion constant which is positive. The greater the corrosion constant, the greater the corrosive properties.

3. Hydrogen Sulfide: The hydrogen sulfide has a tendency to form corrosion products with metals with which it may come in contact.

Pipe lines used by Salt Flat Water Company for discharging water from tank batteries to the reservoirs showed considerable corrosion in steel lines and deposition in the tile lines. The deposition in these lines consist of a mixture of calcium carbonate and sand. Laboratory tests have shown that these deposits may be removed with a solution of muratic acid in the proportion of one part of acid to four parts of water. The acid is allowed to remain in the tile lines for a few minutes and is then washed out completely with a solution of one part of soda ash and 19 parts of water. This acts as a neutralizer to any acid left in the line. The corrosive elements also may be removed from the water before they reached the salt water lines by cooling towers located at the gun barrels. The experiment has not been attempted as yet in the Salt Flat or Darst Creek fields.

Flow from a 20-inch pipe into a 43-acre reserve reservoir which has a capacity of 1,500,000 barrels

Dam at Jacobs Reservoir. This is the main reservoir, covering 93acres and having a capacity of 6,500,000 barrels of water. The dam has a crown of 50 feet and has a core made of creosote pilings. The three gates are shown in the background at the right. There was no water in the reservoir at the time the photo was taken, due to the fact that recent rains had enabled the water company to release the polluted water

At this time, there is considerable trouble being experienced with the steel lines, large holes resulting from corrosion. For this reason, it has been found that the tile type of gathering lines is more efficient than the steel. It is necessary, however, that the correct mixture of cement be used to join these joints, or the deteriorating elements will finally destroy the joints.

Salt Flat has been turned into a more or less experimental ground for oil field water disposal plants. Major companies interested in this system are closely checking its operations for both its evils and advantages. Its success to date already has assured the expenditure of nearly $350,000 in the Darst Creek field for such a system, work on which is expected to get underway shortly.

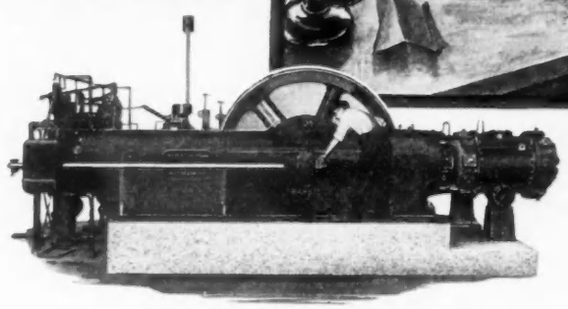
The companies interested in this system in Salt Flat field include Humble Oil & Refining Company, Shell Petroleum Corporation, Gulf Production Corporation, The Texas Company, M. K. Townes, Eastland Oil Company, Sun Oil Company, Cranfill & Reynolds and J. S. Abercrombie. Humble Oil & Refining Company as a development contract with Luling Oil & Gas Campany on a number of leases in the field and operates them in this system.

John R. Suman, Humble Oil & Refining Company, is president of Salt Flat Water Company; H. K. Arnold of the same company, is secretary and treasurer. The directors of the organization are: Joe Russell, Gulf Production Company; F. C. Sealey, The Texas Company; J. S. Abercrombie, independent. W. H. Mead is in charge of the operations and G. E. Martin, is in charge of pollution.

Acknowledgement is made to Riley A. Aucoin, engineer of the Humble Oil & Refining Company, who co-operated in the preparation of this material.

Some Day

YOU'LL LOOK BACK—



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Oil Field Boiler Tests

By HU M. HARRIS and J. E. ECKEL
Humble Oil & Refining Company, Houston, Texas

FREQUENT mention is made of the trend toward heavier steam drilling equipment as the industry is faced with deeper drilling requirements. Naturally, the power plant of the steam drilling rig, the boiler, has taken the burden of the new load. It has been to the advantage of the industry to experiment with this equipment in order to obtain a maximum efficiency with a minimum weight.

In order to obtain a comparison of the performance and operating efficiencies of oil country locomotive boilers equipped with various attachments, such as syphons and superheaters, Humble Oil & Refining Company, along with several manufacturers, has conducted a series of tests under actual field conditions. Data were secured on plain standard oil field boilers, standard oil field boilers equipped with a syphon, and standard oil field boilers equipped with superheater coils. These three types are illustrated by Figure 1.

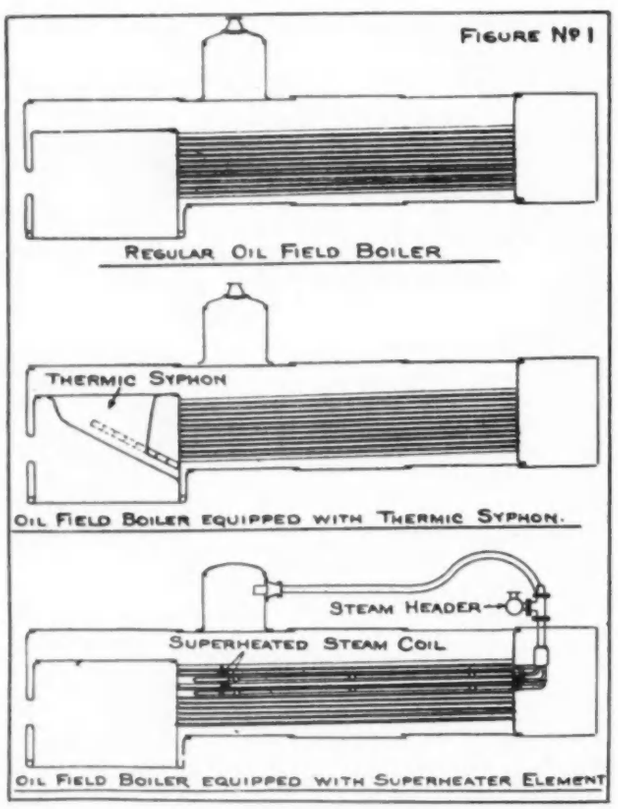


FIGURE Nº 1
REGULAR OIL FIELD BOILER
THERMIC SYPHON
OIL FIELD BOILER EQUIPPED WITH THERMIC SYPHON.
STEAM HEADER
SUPERHEATED STEAM COIL
OIL FIELD BOILER EQUIPPED WITH SUPERHEATER ELEMENT

FIGURE 1

These tests were accomplished by excellent cooperation between the several supply companies with Humble Oil & Refining Company. The first tests of thermic-syphon boilers were directed by Prof. A. H. Sluss of the University of Kansas. In these tests the writers wish to acknowledge the cooperation of Mr. John Baker of Locomotive Firebox Company, Messrs. W. S. Bassett and L. A. Humphreys of Oil Well Supply Company and Mr. P. J. Sonner of Sonner Burner Company, as well as the organizations of these companies. The tests on superheated steam were conducted with the valued cooperation of Mr. V. Weaver Smith of Superheater Company and Messrs. C. A. McCollum and A. L. Leman representing the National Supply and Broderick Companies. The Mechanical Engineering Department of Rice Institute very courteously loaned several instruments for use in the tests.

Order of Tests

For convenience in discussion, the tests are divided into four groups:

Group 1. This set of tests was conducted at a drilling well in the Humble, Texas, district, as efficiency tests upon two 90-horsepower boilers equipped with thermic syphons. The boilers were unprotected by insulation. Three tests over eight hours' drilling periods were taken with the well at a depth of approximately 3800 feet.

Group 2. This set of test was conducted in the same district in October, 1929, as a comparison between saturated and superheated steam as to the effect upon rig operation. Two 73-horsepower boilers, equipped with superheater coils, were set on the same rig with the two syphon boilers previously tested. The boilers were alternated in service daily, in order to obtain similar drilling conditions to compare the two kinds of steam. The tests were continuous while the wells drilled from 1800 to 4200 feet.

Group 3. This set of tests consisted of a performance test at a drilling well equipped with three plain 73-horsepower boilers having no special attachments. These boilers were in a sheet metal boiler house instead of in the open as in previous tests. The tests were continuous while the well drilled from 1800 to 4200 feet.

Group 4. These tests were upon two plain 85-horsepower field boilers in a permanent installation supplying steam to an emulsion treating plant. The boilers were housed and insulated so that their operating conditions were very favorable, the tests showing chiefly the advantages of insulation.

Methods of Procedure

In conducting the tests at drilling wells, care was taken not to interrupt the normal procedure of operation. Information was recorded during actual drilling operations

ABSTRACT

THE information obtained as a result of the test data for this paper, presented before the Division of Production, American Petroleum Institute, mid-year meeting at Dallas, June, 1931, may be summed up as follows:

1. Efficiencies derived for (a) plain fire tube boilers, unprotected, 51.5 per cent, (b) syphon equipped boilers, unprotected, 56.2 per cent, (c) for superheater equipped boilers, unprotected, 59.4 per cent, (d) for plain boilers protected by a house, 60.1 per cent, and (e) for plain boilers, both housed and insulated, 68.6 per cent.

2. Thermo-syphons presented the above advantage in efficiency, also a better distribution of heating surface, dry steam, and the safety advantage of circulation.

3. Superheater-equipped boilers provided improved drilling conditions with dry and superheated steam, increasing the life of drilling machinery, effecting approximately a 25 per cent saving in both fuel and water, and reducing the weight of the boilers considerably for an equal power output.

4. Superheated steam requires special high flash lubricants, balanced valves in pumps and engines, a safety bleeder when steam is not being drawn from the boiler and larger special tubes for superheater coils adding some difficulty to cleaning of the tubes.

5. The boiler house used in the tests reduced heat losses 15 per cent, and the combination of housing and insulation 20 per cent. (Figures are percentages of the total heat supplied in the gas.)

6. The open steam lines in the rigs of the tests handling that amount of steam caused condensation and radiation losses of 15 boiler hp. per 100 feet of line for saturated steam and six boiler hp. per 100 feet of line for superheated steam. Saturated steam reached the pumps containing 15 to 17 per cent moisture while superheated steam retained 58 degrees superheat. The greatest loss of saturated steam was not radiation through the pipe walls, but condensed hot water remaining in the line, incapable of doing work.

7. Additional heating surface and combustion space should be provided in the firebox end to effectively increase boiler capacities.

8. Both syphons and superheaters add to the first cost of the boiler. The additional first cost of syphons is balanced by the safety advantage, better circulation, added heating surface and the efficiency advantage (Paragraph 1). The additional first cost of superheater is practically balanced by the reduction in size of boilers. The saving for any given location is therefore dependent upon the cost of transportation, fuel, water and the operating conditions of the given rig, savings calculated on the basis given above.

only, so that the picture of the relative steam consumption of the pumps and drilling engine would not be distorted by other irregular steam consumption. However, the steam meter chart recorded the over-all steam consumption each day. Recording meters were used wherever possible, but observers were on hand throughout 24 hours to record other data at short intervals and check all charts. The nature of the data taken and instruments used to obtain the same are shown in Table 1.

In the first test of Group 1, low pressure burners were proven preferable to the high pressure type for firing in the small firebox of an oil field boiler. This type was used throughout the remaining tests.

Results of Tests

The results of the tests present many interesting facts on steam drilling rig operation, including boiler efficiencies, effects of different types of installation, effects of superheat, benefits of insulation—both on boilers and on steam lines, steam and fuel consumption of the rig. Table 2 summarizes this information.

Attention should be called to the distinction between boiler efficiencies and radiation and convection losses. For example, if the efficiency of a boiler is 55 per cent, that means that 55 per cent of the heat content of the fuel is transferred to the steam but not that all of the remaining 45 per cent goes to radiation and convection as a larger part of it goes to combustion, stacks and excess air losses. Data on heat balances are available showing these losses on these tests but are much too lengthy to be gone into in a paper of this scope.

Plain Boilers

The plain boilers tested in Group 3 were located in a sheet metal house which raised the temperature surrounding the boilers approximately 30 degrees above outdoor temperature and thus reduced radiation and convection losses. These boilers averaged an efficiency of 60 per cent, at the same time showing radiation, convection and unaccounted losses of 9.39 per cent of all heat supplied. The

COMPARATIVE BOILER TESTS — HUMBLE OIL & REFINING CO. HOUSTON - TEXAS. — TABLE NO. 1

GROUP NO	1		2		3	4
TEST NO	1	2-3.	1-3-5-7 9-11-13-15-17	2-4-6-8-10 12-14-16-18	1-9	1-4
BOILERS	2-90-H.P.- SYPHON EQUIPPED			2-25 H.P. SUPERHEATER EQUIPPED	3-73-H.P. PLAIN	2-85-H.P. PLAIN
HOUSING INSULATION	NONE				SHEET METAL HOUSE	SHEET COMPOSITION HOUSE 3" INSULATION
BURNERS	HIGH PRESSURE	4 SECTIONS LOW PRESSURE PER BOILER		LOW PRESSURE	4 SECTIONS LOW PRESSURE PER BOILER	
FUEL CONTROL	HAND		DIAPHRAGM SPRING GOVERNOR	STEAM JET CONTROL GOVERNOR	DIAPHRAGM SPRING, BOILER GOVERNOR	
WATER FEED	INJECTORS					FEED WATER PUMPS & COPES REGULATOR
USE OF STEAM	DRILLING RIG					PREHEATER OIL TREATING PLANT
SIZE OF ENGINE	12" × 12" TWIN BALANCED — PISTON VALVE					———
PUMPS	12" × 6" × 16" — STEAM DRIVEN — DUPLEX.					———
DRILL PIPE	4"		6" TO 4000 FEET.		4"	———
SIZE OF STEAM PIPE	3" — THROUGHOUT					
INSTRUMENTS						
GAS FLOW MEASUREMENT	WESTCOTT ORIFICE METER — 4" & 1½" ORIFICE					WESTCOTT ORIFICE METER 3" & 1" ORIFICE
WATER EVAPORATION	PLATFORM SCALES		COCHRAN FLOW METER — 4" & 2.562"			WORTHINGTON 2" DISPLACEMENT METER
BOILER PRESSURE MEASUREMENT	SPECIAL CALIBRATED GAUGE		REGULAR BOILER GAUGES CHECKED			REGULAR GAUGES
LINE PRESSURE MEASUREMENT	———		BROWN RECORDING PRESSURE GAUGE - 0-300			———
STEAM QUALITY MEASUREMENT	ELLISON COMBINATION CALORIMETER AND CARPENTER'S THROTTLING CALORIMETER		ELLISON THROTTLING CALORIMETER SHAFFER AND SUDERBURG SEPARATING CALORIMETER	POTENTIOMETER AND THERMO COUPLE	THROTTLING CALORIMETER B-AND-B SEPARATING CALORIMETER	THROTTLING CALORIMETER
STEAM TEMP. MEASUREMENT	———		BROWN RECORDING THERMOMETER			———
FLUE GAS ANALYSIS	HAYS COMBUSTION TEST SET					
UP TAKE DRAFT.	ELLISON DRAFT GAUGE					HAYS DRAFT GAUGE
FURNACE TEMPERATURE	———		LEEDS AND NORTHRUP POTENTIOMETER, AND THERMO-COUPLE.			LEEDS AND NORTHRUP POTENTIOMETER
STACK TEMPERATURE	BRISTOL PYROMETER		LEEDS AND NORTHRUP POTENTIOMETER AND THERMO-COUPLE			
PUMP STEAM CONSUMPTION	———		WESTCOTT ORIFICE METER 4" & 2.562"			———
PUMP FLUID PRESSURE	———		1000# BROWN RECORDING GAUGE			———

Table 1

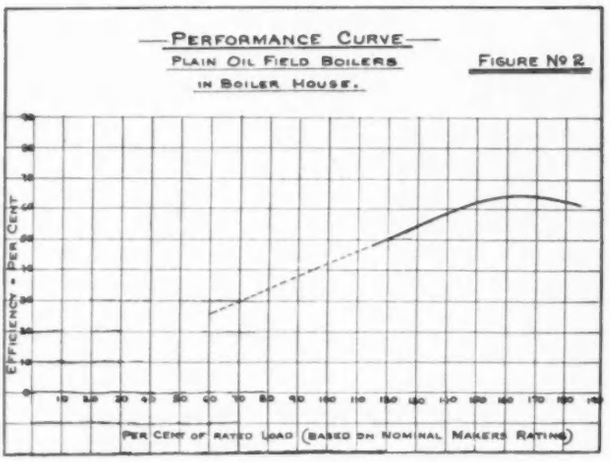
plain boilers insulated showed an efficiency of 68.7 per cent with similar losses of only 3.93 per cent. The syphon equipped boilers unprotected by house or insulation showed losses of 23.8 per cent. The presence of the syphon does not affect these radiation, convection or unaccounted losses so that a direct comparison may be made. In the case of the protected plain boilers, at least 75 per cent of the saving in such losses must have served to increase their efficiency so that operating in the open unprotected they would have averaged about 51.5 per cent efficient. The average quality of the steam produced at the boiler dome was 97 per cent. By the time this steam had reached the pumps and engine, the quality was dropped to 85 per cent, that is, 15 per cent of the steam was water. The load carried by the boilers averaged around 150 per cent of the manufacturer's rating, although the load varied over a considerable range. Figure 2 shows that efficiency of the boilers increased with the load up to about 165 per cent of their stated rating. This relation probably varies slightly in oil field boilers, depending upon the ratio of the actual heating surface to the rating and also upon the location of the heating surface.

Comparative Results of Boiler Tests

	1. Plain Boilers Housed & Insulated	2. Plain Boilers Housed	3. Derived for Plain Boilers Unprotected	4. Syphon Equipped Boilers Unprotected	5. Superheater Equipped Boilers Unprotected
Average Boiler Pressure (Gauge)	143.5	179.5		179.5	179.0
Average Efficiency	68.69	60.10	51.5	56.2	59.4
Average Load Per Cent Rating	151	148.6		156.8	228.0
Average Total Horsepower	261.1	325.5		286	297
Average H.P. Output Per Boiler	130.5	108.5		143	148.5
Bbls. Water Per Hour—Total	23.4	27.2		24.0	22.9
Bbls. Water Per H.P. Hour	.089	.084		.084	.077
Average Quality of Steam	97.5	97.1		99.1	190° Superheat
Av. Fuel Consumption, Cu. Ft. Per Hr.—Total	12,368	13,867		13,360	12,011
Av. Gas Consumption, Cu. Ft. Per Output H.P. Hr. (Heat value of Gas, B.t.u. per cu. ft.)	47.4 1029	42.6 1302		46.7 1425	40.4 1400
Per Cent Lost by Radiation, Convection, etc.	3.93	9.39		23.8	
Av. Steam Line Loss in Boiler H.P.		36.7		39.3	18.2
Av. Quality of Steam at Pump		15.5 % Moist		17.0 % Moist	58° Superheat
Av. Pump Speed R.P.M.		47.9		57.4	60.4
Av. Fluid Pressure of Pump		380		347	387
Av. Fluid H.P. Output		83.1		91.4	106.3
Steam Consumption Lbs. Hydraulic H.P. Hour		73		67.6	50.0

1. 85 Horsepower, 175 pounds, W. P. Boilers (2 Boilers).
2. 73 Horsepower, 200 pounds, W. P. Boilers (3 Boilers).
4. 90 Horsepower, 200 pounds, W. P. Boilers (2 Boilers).
5. 73 Horsepower, 200 pounds, W. P. Boilers (2 Boilers). (Actually 65 when Superheater Equipped.)

Table 2


—PERFORMANCE CURVE—
PLAIN OIL FIELD BOILERS IN BOILER HOUSE.
FIGURE Nº 2
EFFICIENCY - PER CENT
PER CENT OF RATED LOAD (BASED ON NOMINAL MAKERS RATING)

Syphon Equipped Boilers

The thermic-syphon equipped boilers tested in Groups 1 and 2 were in both cases open to the weather without housing or insulation and were operating under normal drilling conditions. These boilers in the two groups of tests averaged an efficiency of 56.2 per cent as compared with the efficiency of 51.5 per cent derived from plain boilers under similar conditions. Their steam was practically dry, averaging a quality of 99.1 per cent as compared with 97.1 per cent for plain boilers, showing that the thermic circulation improved the quality and indicating that "pulling over" does not occur. The boilers were operated at an average of 157 per cent of their rating or in the vicinity of the point of highest efficiency.

Thermic syphons add heating surface at an advantageous point in the boiler. However, they slightly reduce combustion space. The effect of the position of heating surface with respect to combustion space deserves special attention and will be discussed more fully. The syphons present a safety advantage in the thermic circulation of the water as a protection against damage to the crown sheet and explosion in the case of low water.

Superheater Equipped Boilers

Results on the superheater type of oil field boiler were obtained during the runs of Group 2. The operating conditions of the well were identical with those for the syphon boilers in the same group. It should be pointed out that superheaters and syphons are not to be compared directly since the adavntages to be gained by each are of a different nature. The syphon is intended primarily to improve the operating performance of the boiler, while the superheater is intended as an auxiliary unit to improve the quality of the steam output for doing work after it leaves the boiler. The two may be used together advantageously, in so far as boiler operation is concerned.

The superheater equipped boilers showed an average

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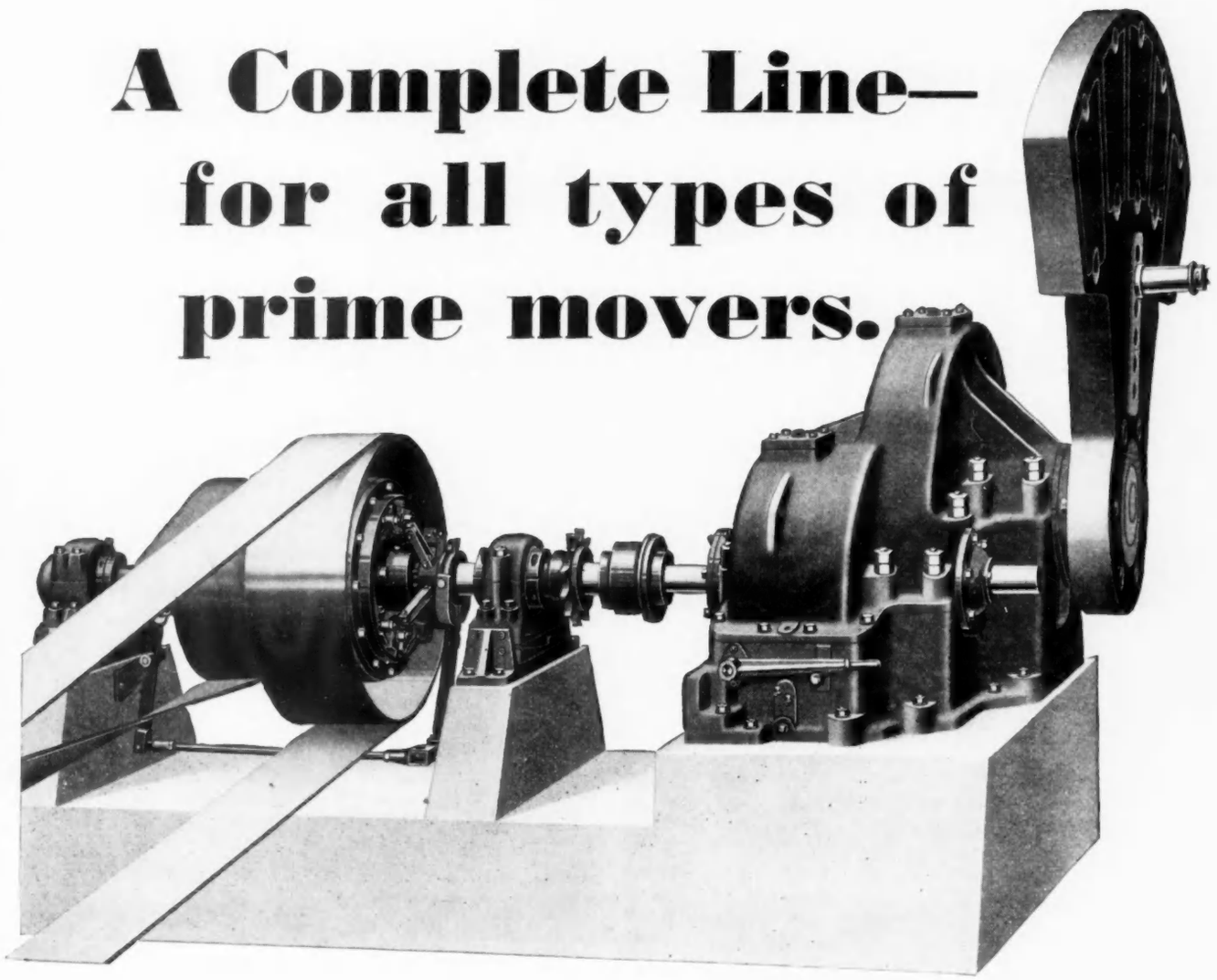
A Complete Line— for all types of prime movers.



THE
NATIONAL SUPPLY
COMPANIES

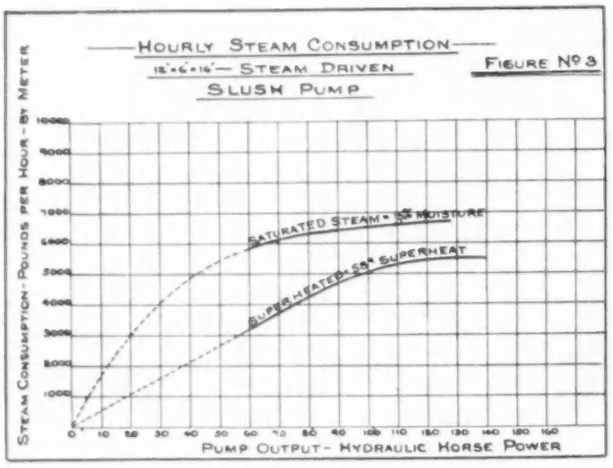

HOURLY STEAM CONSUMPTION
12"-6"-16" STEAM DRIVEN
SLUSH PUMP
FIGURE No 3
STEAM CONSUMPTION - POUNDS PER HOUR - BY METER
SATURATED STEAM - 15% MOISTURE
SUPERHEATED - 58° SUPERHEAT
PUMP OUTPUT - HYDRAULIC HORSE POWER

FIGURE 3

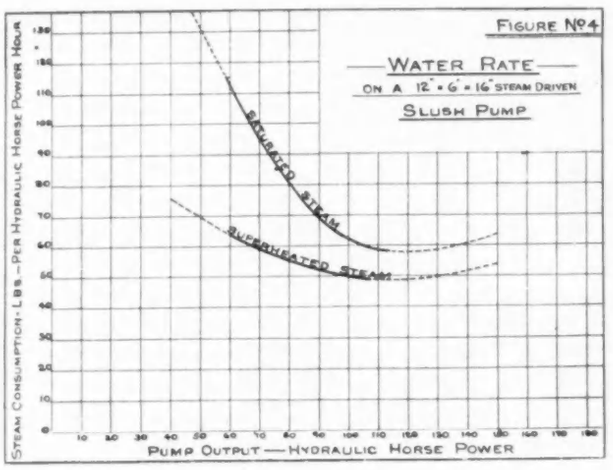


FIGURE No 4
WATER RATE
ON A 12"-6"-16" STEAM DRIVEN
SLUSH PUMP
STEAM CONSUMPTION - LBS. - PER HYDRAULIC HORSE POWER HOUR
SATURATED STEAM
SUPERHEATED STEAM
PUMP OUTPUT — HYDRAULIC HORSE POWER

FIGURE 4

Formulas Used in Boiler Calculations

The term "Horsepower" means capacity to evaporate 34.5 pounds of water from and at 212° F. and at atmospheric pressure.

Unit of Evaporation.—It is the custom to reduce results of boiler tests up to the common standard of the equivalent evaporation from and at the boiling point at atmospheric pressure, or from and at 212°F. This unit of evaporation, or one pound of water evaporated from and at 212°F. is equivalent to 970.4 British thermal units. I B T U=mean quantity of heat required to raise one pound of water 1°F. between 32° and 212°F. One boiler horsepower is therefore equivalent to 34.5 x 970.4 or 33,479 B.t.u.

1. Factor of Evaporation $= \frac{H-(t_f-32)}{970.4}$ where $H = h+qL$.

   H = Total heat. t_f = temp. (°F.) of feed water.

   (h = heat of liquid; q = quality of steam; L = heat of evaporation).

   These items to be taken from steam tables at absolute pressure

   970.4 = Latent heat of evaporation at 212°F.

2. Equivalent Evaporation = Weight of Dry Steam X Factor of Evaporation.

3. Boiler Horse Power $= \frac{\text{Equivalent Evaporation}}{\text{No. Hrs. x 34.5}}$

   Boiler Horse Power = Wt. Feed Water X Heat Absorbed Per Lb. of Steam. No. Hrs. X (34.5 x 970.4)

4. Heat Absorbed Per Lb. of Steam = $h + qL. (t_f-32)$

5. Efficiency $= \frac{\text{Heat Absorbed}}{\text{Heat Supplied}} =$

$$\frac{\text{Wt. Feed Water X Heat Absorbed Per Lb. of Steam}}{\text{Cu. Ft. Gas x B T U Value (High Heating Value)}}$$

6. Steam line loss of useful heat energy =

   $W (h_b-q_b L_b)-W (h_r-q_r L_r)$

   Where W = pounds of steam handled per hour.

   h_b = heat of liquid at boiler pressure

   q_b = Quality of steam at boiler

   L_b = heat of evaporation at boiler pressure

   h_r = heat of liquid at rig pressure

   q_r = Quality of steam at rig

   L_r = heat of evaporation at rig pressure.

Table 3

boiler efficiency of 59.4 per cent operating at an average of 228 per cent of their rated load and showing no apparent difficulty in supplying the required steam. This value is considerably above the point of loading for maximum efficiency but was necessitated by the inadequate size of the boilers. The two boilers were rated at 73 horsepower each, but the installation of larger tubes for superheater coils had cut their heating surface to 650 square feet or about 65 horsepower per boiler. The steam left the superheater header at an average gauge pressure of 179 pounds and 190 degrees of superheat.

Effects of Superheated Steam

The steam reached the engine and pumps still superheated at an average of 58 degrees and at a pressure of 151 pounds per square inch. Compared with the 15 per cent moisture in the saturated steam at these points, this degree of superheat produced very favorable results in the operation of the machinery. It was found that the slush pumps consumed approximately two-thirds of the total steam produced by the boilers in the process of normal drilling op-

Formula Used to Calculate Fluid Horsepower of Pump

From: Pump Speed
Pump Pressure
Mud Weight
Pump Dimensions
Ft. Lbs. Work

$$\text{Horse Power} = \frac{\text{Pounds Mud per Minute x Ft. Head Lift x Eff.}}{33000} =$$

$$\frac{\text{Gallons Piston Displacement Per Rev.} \times \text{Mud Wt. Per Gallon} \times \text{Pump Speed R.P.M.} \times \text{*Head Ft} \times \text{Hyd. Eff.}}{33000}$$

*Note: Head ft. = 2.31 x Pump Pressure.

For 12 x 6 x 16 Pump with 2" Rod (Duplex Pump)

1 R.P.M. = 1708.8 Cu. In. = 7.4 gal.

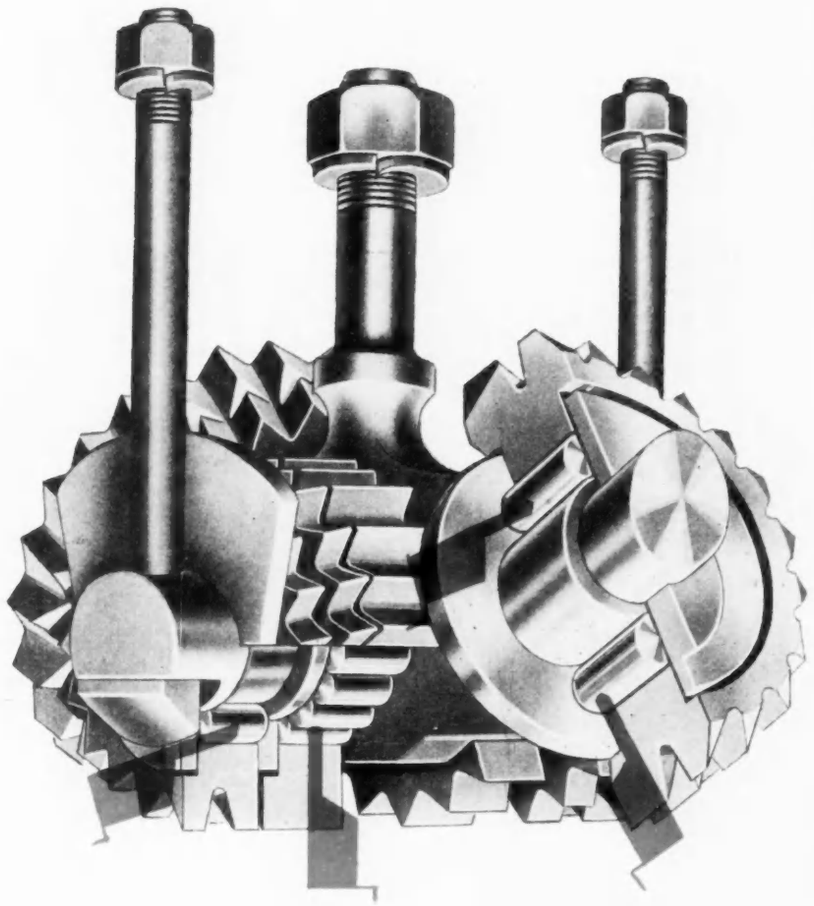
Avg. Mud Wt. = 11 lb./gal.

Assume 80% Hyd. Eff.

$$\text{Fluid Horsepower} = \frac{7.4 \times 11 \times \text{Pump Pressure} \times \text{Pump Speed R.P.M.} \times 2.31}{33000} \times .80 =$$

.00457 x Pump Pressure x Pump speed.

Table 4



THE LOGICAL STEP

ROLLER BEARINGS FOR ROCK BITS

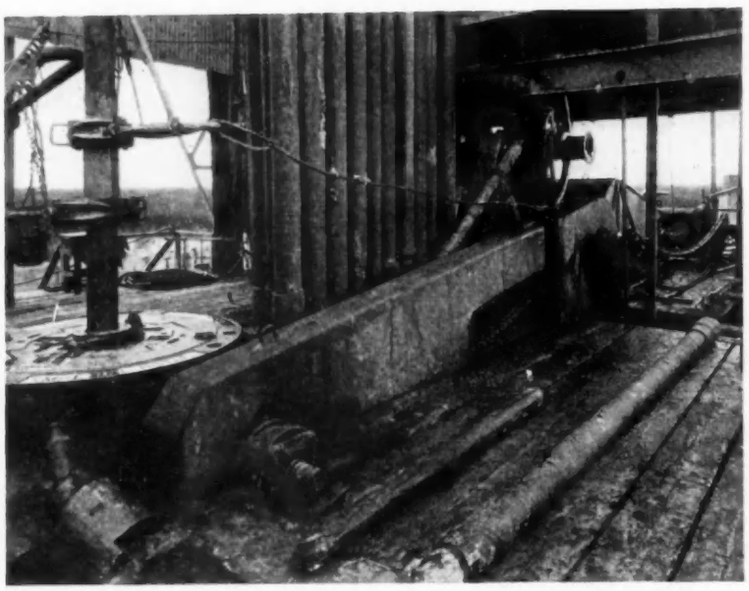
Effective for high speeds; gears, transmissions, etc. Effective for heavy loads; locomotives, passenger cars, etc. It was but a logical step for Reed to take, and incorporate the decided advantages for both high speed, heavy load, and long life.

Not ordinary roller bearings, but special Reed made roller bearings, that give maximum friction reduction with consequent long life, low footage cost and operation economy.

The new single unit cutter assembly of the Reed Type 31 Roller Bearing Rock Bit makes for quick and easy cutter change. Slush jets wash and keep all cutters clean. One extra large jet strikes directly upon bottom of hole, removes cuttings and facilitates penetration of new formation with each rotation of bit.

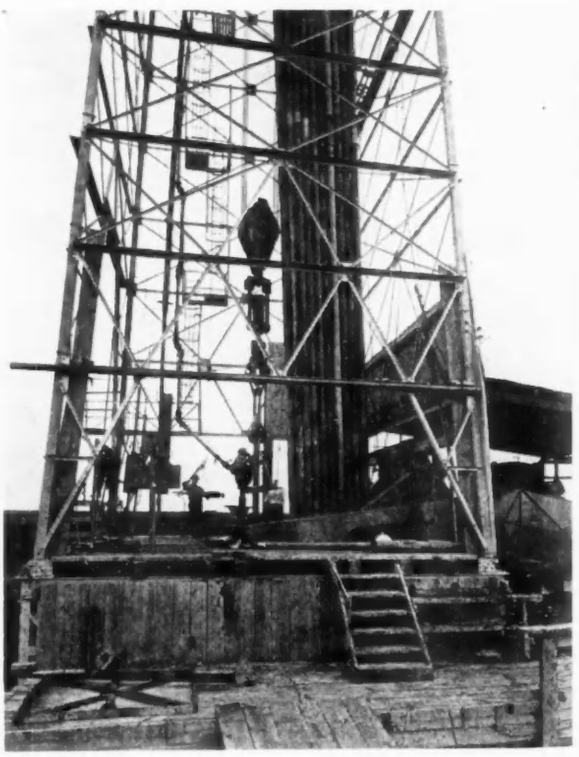
The Reed Type 31 Roller Bearing Rock Bit has been successfully used in many fields including the Gulf Coast, in East Texas, in West Texas, in New Mexico, in Oklahoma, in Kansas, in Wyoming, in California, in Canada, in South America and in Iraq. Try this bit on your next hole.

» » » AND



On this major company well in the Gulf Coast, dug to a depth of 7662 feet, Reed 6″ Full Hole Tool Joints were used exclusively, as were also Reed Rock Bits and Reamers, Reed's Wire Line Bit, Reed-Elliott Soft Formation Core Bit, and Martin-Decker Automatic Recording Weight Indicator.

Reed Full Hole Tool Joints on every joint down to 7662 feet.

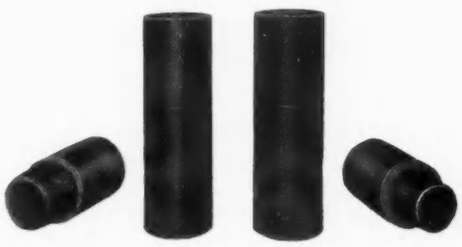


Showing Double Three Point Reamer, Reed-Elliott Soft Formation Core Bit, and Martin-Decker Recording Weight Indicator.

Top view shows Wire Line Bit Head, Wire Line Bit Core Barrel, and Reed-Elliott Soft Formation Core Barrel used on this job.

THEY USED THEM ALL...

Reed's Replaceable Blade Fish Tail Bit. Forged steel blades hard-surfaced with Reedite. No broken ends of blades left in the hole.



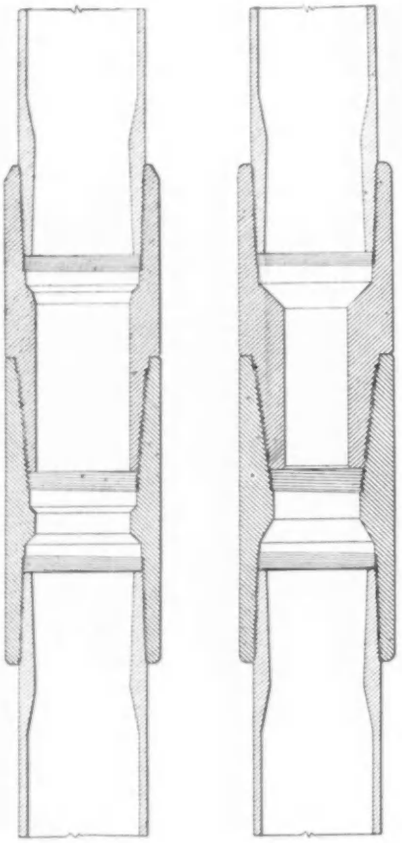
Reed manufactures both Reed Full Hole and A.P.I. Tool Joints in all sizes.

Type 31 Double Three Point Reamer.

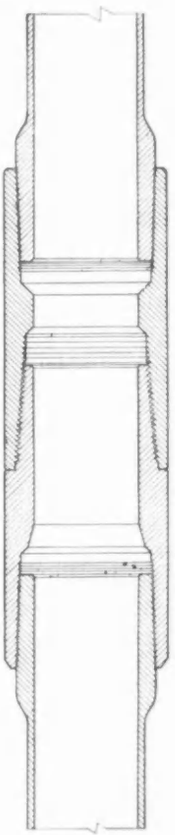
Type 31 Roller Bearing Rock Bit

Reed-Elliott Soft Formation Core Bit without reamer.

Reed Hard Formation Core Bit, complete with reamer.



A vivid disclosure of the nearly frictionless slush flow obtainable through Reed Full Hole Tool Joints, as against the swaged nipple effect produced through use of ordinary tool joints. (A scaled actual cross section comparison of 5 inch joints.)



Full open and unobstructed flow is obtained by using Reed Full Hole Tool Joints on external upset drill stem.

Illustrations on the preceding pages show the exclusive use of Reed products on one of the deepest wells ever drilled in the Gulf Coast territory, but fail to tell the complete story. To a depth of 7662 feet Reed Full Hole Tool Joints cut the maximum average pump pressure requirements to *only 600 pounds.* The size of the hole was 12¼″ down to this depth. When size of hole, depth, usual Gulf Coast formations etc. are taken into account, this unusually low requirement of pump pressure stamps this operation as being as nearly free from friction as is possible of attainment with modern equipment.

If your drilling costs are mounting due to heavy investments in pumps, frequent replacements of valves, liners, seats, packing, etc., try equipping a string of drill pipe with Reed Full Hole Tool Joints and note your lessened operation costs quickly. They cost no more than any other alloy steel joint of like size.

REED ROLLER BIT CO.

HOUSTON LOS ANGELES OKLAHOMA CITY NEW YORK CITY

erations. The pumps operating with open throttles and no cut-off were the basis of comparison between the operating effects of superheated and saturated steam. The steam consumption of the pumps for both kinds of steam is compared in Figures 3 and 4. The steam consumption per hour is a meter measurement. The hydraulic horsepower output of the pumps was calculated from their speed, water and pressure, fluid weight and dimensions. It was found that

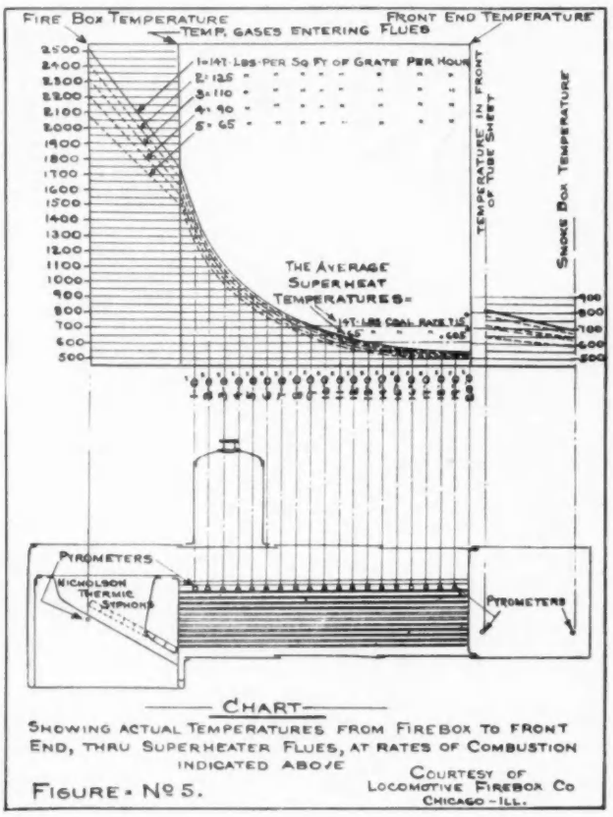

FIRE BOX TEMPERATURE
TEMP. GASES ENTERING FLUES
FRONT END TEMPERATURE
TEMPERATURE IN FRONT OF TUBE SHEET
SMOKE BOX TEMPERATURE
THE AVERAGE SUPERHEAT TEMPERATURES=
PYROMETERS
NICHOLSON THERMIC SYPHONS
PYROMETERS
CHART
SHOWING ACTUAL TEMPERATURES FROM FIREBOX TO FRONT END, THRU SUPERHEATER FLUES, AT RATES OF COMBUSTION INDICATED ABOVE
FIGURE - Nº 5.
COURTESY OF LOCOMOTIVE FIREBOX CO CHICAGO - ILL.

FIGURE 5

the same amount of work was available with a 23.5 per cent smaller consumption of superheated steam. This value applies at a pump output of 90 hydraulic horsepower, the average value calculated for the pump when operating with saturated steam. Actually, the pump speed increased and output pressure rose sufficiently to increase the average output to 106 horsepower.

While the hourly saving in gas amounted to 14.3 per cent, the equipment was performing 16.3 per cent more work. This indicates a saving of 26.2 per cent based on the same amount of work. These comparisons are shown in Table 2. Due to this increased capacity, reduction in size of boiler settings is possible.

Although no direct data were obtained on engine operation, an increase in speed of operation and flexibility was noticed. This was especially noticeable in the hoisting speed when pulling drill pipe from the well. At the time of the boiler tests, no difficulty in lubrication was encountered; however, on the next well, where insulated steam lines were used, an oil tested for service at 600 degrees was necessary.

Line Losses

The advantage of superheat lies in its better transfer of heat energy from the boilers to the drilling machinery as utilized work. The saturated steam dropped from a quality of 99 per cent and a pressure of 179 pounds at the boiler to a quality of approximately 85 per cent and a pressure of 142 pounds per square inch at the pumps. This condensation represents an appreciable loss in horsepower since the water carried in the steam is a total loss as well as being detrimental to operation. The superheated steam leaving the boilers at 179 pounds pressure and 190 degrees superheat reached the pump at 151 pounds pressure and 58 degrees superheat. This left the steam dry and superheated so that it was all available for work.

Steam Line Losses

Steam line losses on uninsulated lines are quite noticeable. On the rigs of these tests, the lines ranged from 260 to 300 feet in length from the boiler header to the pumps, including all risers and connections. These lines had 14 right-angle fittings. Appreciable reductions in length of lines and number of turns have since been made in installations of drilling rig steam lines. In these lines energy losses calculated from pressure, temperature, and calorimeter readings were equivalent to 38 boiler horsepower when passing saturated steam and 18 boiler horsepower when passing superheated steam. The benefits of steam line insulation, if fuel economy is desired, are clearly indicated.

Heating Surface and Combustion Space

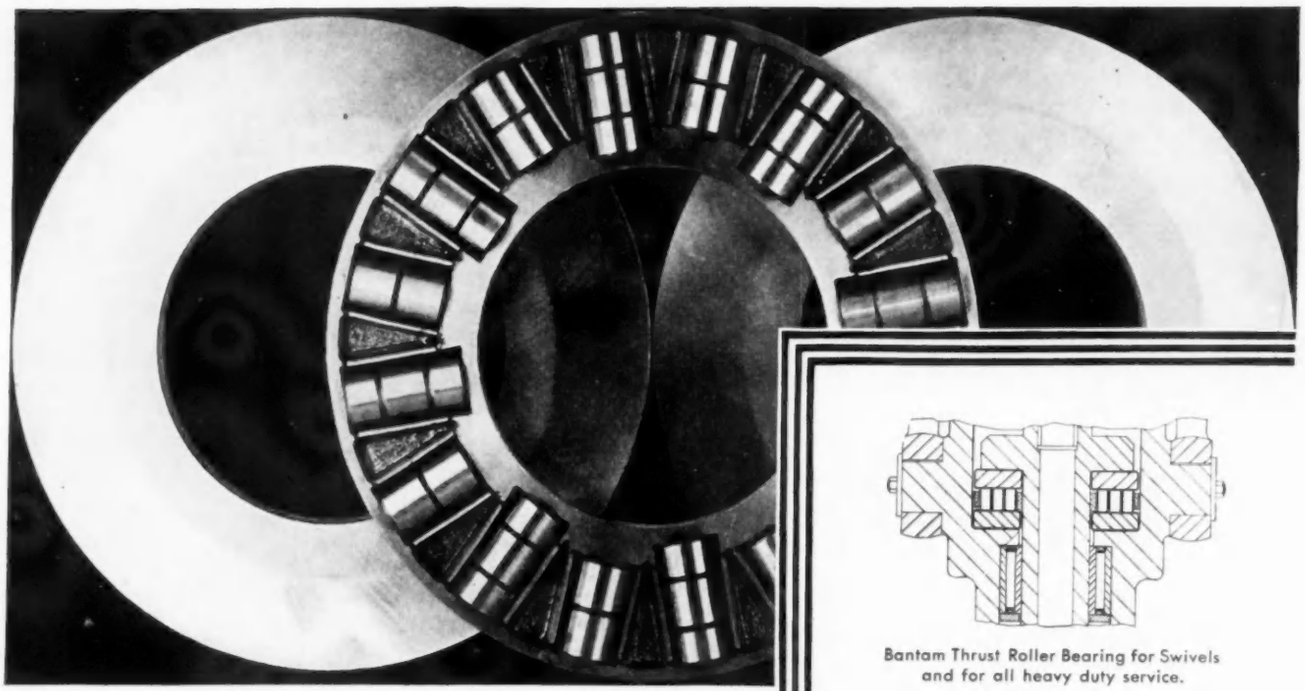
Figure 5 is included to show the temperature drop curve for gages passing through the boiler flues. It is generally accepted that 10 square feet of heating surface represents one boiler horsepower but the importance of the location of this heating surface has never been stressed. The curve shows that after the combustion products have passed approximately 15 feet of boiler tubes no further appreciable drop in temperature occurs, and that the greatest transfer of heat occurs in the first eight feet of tubes. This indicates that additional heating surface and combustion space are more advantageously gained at the firebox end of the boiler. In other words, an addition of length to the tubes without enlarging the combustion space increases the heating surface and theoretical rating, but does not proportionately increase the capacity of the boiler.

Gas Industry Fourth Largest Utility

New York.—Some idea of the size and importance of the gas industry can be gained from a brochure recently issued by Ford, Bacon and Davis, Engineers, wherein it was stated that the combined natural and manufactured gas industry has outgrown the telephone and telegraph business. The two branches of the gas utility business now rank fourth in the public utility field, with steam railroads first, electric power and light units second and electric railways third. It is stated by this authority that the natural gas industry came into its own in 1926 with the discovery of new pipe line construction methods and utilization of a new type of pipe, making possible the transportation of natural gas to rich markets in the Middle West and East. With these developments, the natural gas industry grew rapidly, the 1930 volume of sales increasing to 1,850,000,000,000 cubic feet, while sales for 1931 are estimated to reach a total of more than 2,000,000,000,000 cubic feet.

Another interesting fact shown is that the longest line in point of total mileage is Southern Natural Gas Company's system which extends from the Monroe-Richland field in Louisiana to Atlanta, Georgia. The system includes 429 miles of main trunk line, 67 miles of feeder lines and 829 miles of branch lines. A total of 19 river crossings were necessary in piping fuel across Mississippi, Alabama and parts of Louisiana and Georgia. Other large systems are the 569 miles of main and branch lines of Colorado Interstate Gas Company and Canadian Gas Company; the 465-mile line of Mississippi River Fuel Corporation; 210-mile system of Memphis Natural Gas Company; Interstate Natural Gas system and others.

BEARING SPECIALISTS FOR 32 YEARS



BANTAM REGISTERS UNUSUAL PERFORMANCE in Rotary Drilling

The Bantam Roller Thrust Bearing for Swivels, pictured above, successfully carries loads of 300,000 pounds and over. Speaking of a Bantam-equipped Swivel, one operator says, "This is the fifth well on which this Swivel has been used without a sign of bearing trouble. The total depth of the wells drilled is over 30,000 feet and the bearings are still going strong."

The Journal Roller Bearing, pictured at the right, is used on Swivel Stems to take the side thrust or radial load which is caused by the whipping motion of the drill stem—preventing excessive wear on packing and stuffing boxes. This bearing is also adapted to heavy duty service on Crown and Travelling Blocks and Draw Works.

Write for detailed information on these bearings—also on Bantam Ball and Roller Thrust Bearings for Valves and other oil field equipment.

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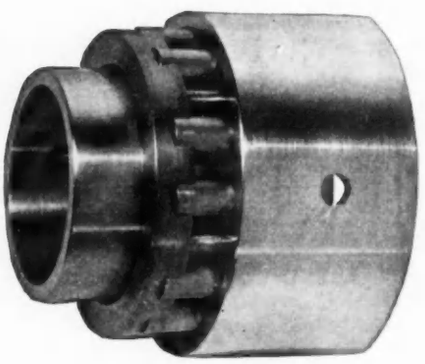
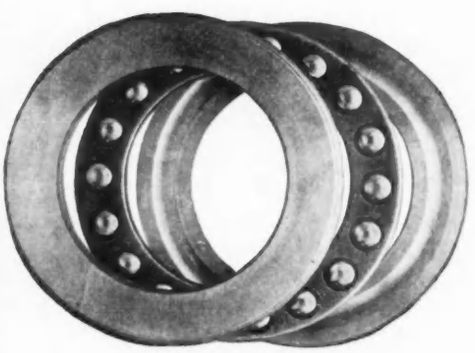


Bantam Journal Roller Bearing for use on Swivel Stem to take side thrust or radial load (Unretouched photo).



Bantam Thrust Ball Bearing for valves and other oil field equipment (Unretouched photo).

BBB

ONE OR A MILLION • ½" TO 48"

Markets • Production • Crude Prices

H. J. STRUTH, ***Staff Economist, Houston, Texas***

Encouragement Dominates Week's Market News

Although production of the United States showed another increase last week of 19,250 barrels a day, boosting the daily average to a new high level of 2,482,350 barrels for this year, a number of encouraging developments have dominated the market news of the past week.

California crude and gasoline prices were advanced as a reward for proration accomplishments and as an incentive for maintaining production schedules at economic limits.

A better demand for crude in the Texas Panhandle and North Texas proved to be decidedly encouraging to operators there and has had a tendency to create a firmer market structure. In fact, instances have been cited where Panhandle crude is bringing a premium of 10 cents a barrel above the posted price.

Inauguration of the Cranfill plan of curtailment in East Texas on June 20 presents another encouraging angle that is being looked upon with favor by many in the industry. Much interest is attached to the outcome of this plan, particularly with regard to whether or not it will cause a lower total rate of production.

While the Cranfill plan is said to be in operation now, it is difficult to learn just what has been accomplished thus far. Last week's daily average production in East Texas was further accelerated by the completion of many new wells, having increased the total daily output from 329,000 barrels to 371,350 barrels, an increase of 42,350 barrels. The feeling exists among some oil men that the Cranfill plan will have a tendency to boost the output rather than lower it. It is also felt that little can be accomplished until the railroad commission sanctions the plan.

Production of both the Louisiana and Texas Gulf Coast fields is showing a material decline, as a result of curtailed drilling. Last week, the Gulf Coast area showed a decrease in daily average production of about 10,000 barrels. Production of Texas, however, continues above 990,000 barrels a day.

Late reports received from East Texas indicate that production of the Kilgore area has been reduced since last Saturday by about 55,000 barrels a day. The other two areas are also expected to show a decline during the present week. Proponents of the Cranfill plan state that the maximum rate of production under the plan will only be about 250,000 barrels. The question is, though, what will the rate be within the next month or two with wells being completed at the rate of more than 75 a week? On the other hand, without the adoption of the Cranfill plan, production would have continued to increase to perhaps a greater extent.

Practically all producing areas except East Texas recorded lower production last week. Oklahoma reported an increase of 400 barrels, with Oklahoma City producing about 161,000 barrels a day and Seminole 156,000 barrels. Kansas production declined 2050 barrels to slightly more than 100,000 barrels daily. The largest decrease was recorded by the Gulf Coast where production was down to the extent of 10,000 barrels a day. California recorded a decline of 7500 barrels daily, indicating the reason for increased prices of California oil. North Louisiana, Arkansas, Eastern States and Rocky Mountain States also reported substantial decreases in production during the past week. The large gain in East Texas continued to offset the benefits of lower production elsewhere.

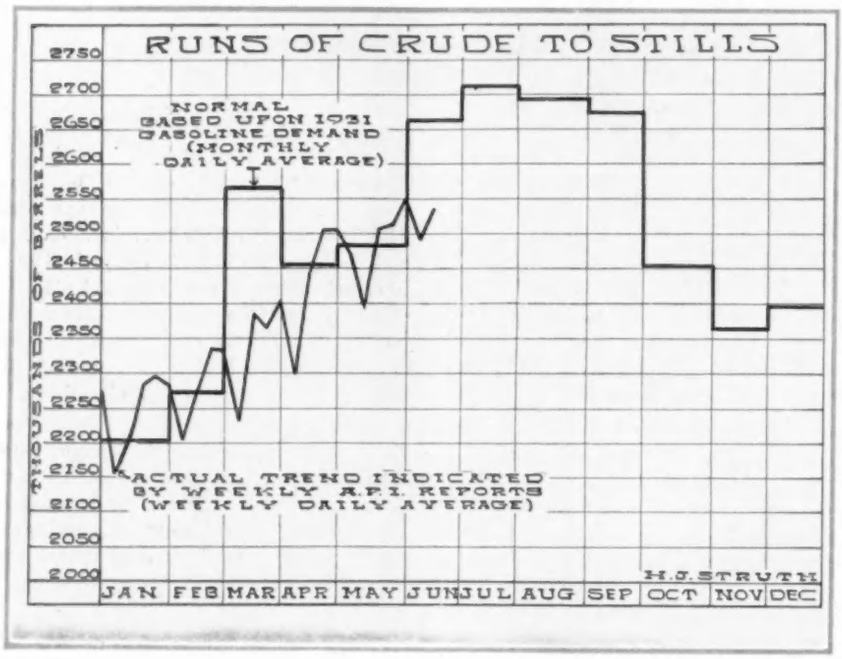
Excess production above allowables now stands at 241,850 barrels daily, of which Texas (mostly East Texas) is charged with an excess of 226,350 barrels daily. California's excess has been reduced to but 33,600 barrels even though the allowable has been cut considerably below the former limit. Oklahoma showed an excess over allowable last week of 52,850 barrels.

Gasoline Stocks Drop Sharply

The biggest decline in gasoline stocks took place last week when reports to the American Petroleum Institute indicated a net decline for the week of about 1,500,000 barrels. Stocks of gasoline reported by refineries as of June 20 aggregated 41,982,000 barrels compared with 43,410,000 barrels on June 13. This indicates that the peak gasoline consuming season is on in earnest and prompts belief that there is a record-breaking demand, despite the fact that the depression has been expected to retard the rate of consumption by the motoring public. While some opinions state that present low gasoline prices have stimulated the demand, it is believed that price has very little effect upon the utilization of motor fuel. In fact, there has been a noticeable increase in motor travel with the advent of the vacation period and there is every reason to believe that reasonably higher gasoline prices would not influence a decline in the use of motor cars for vacation travel. The fact remains that millions of motor cars continue to dot the nation's highways despite the depression, and the more general adoption of the five-day week in many industries has perhaps also been an important factor in accelerating motor travel.

Runs of crude to stills during the week ending June 20 amounted to about 2,507,000 barrels daily, a decline from the previous week's total of about 28,000 barrels a day. This rate of throughput has been figured on a Bureau of Mines basis, using American Petroleum Institute figures as a guide. Judging from the rate at which gasoline is now moving to consuming points, it is obvious that succeeding weeks will show a material increase in the quantity of crude run through stills of refineries. The rate of decline in gasoline stocks recorded last week is considerably beyond normal for this season of the year and indicates that the total decline for June will probably exceed 4,000,000 barrels, or twice the amount of decrease normally expected for this month.

MARKET SECTION



Higher California Prices Predicated on Lower Output

The general advance in California crude and gasoline prices was the result of a long effort to stabilize the industry within the state. The increases were regarded by some as untimely, due to the surplus of Mid-Continent crude, but California producers, refiners and marketers were anxious to force a higher price scale.

With a flat price of 35 cents per barrel for the best crude and an average retail price of nine cents for gasoline, nearly all operations were being carried on with a loss. Principal integrated companies were anxious to establish a higher level of prices, even if it required considerable effort to maintain them. This was done with the hope that curtailment, both at home and in the Mid-Continent, would gradually step in and fill the breach.

Fear that East Texas crude will find its way to California has been expressed, but so far none has been routed this way. Reports are current that a cargo of Russian crude, or gasoline, is on its way to California. This has not been verified and may be nothing more than a rumor. If curtailment succeeds in shutting off a liberal supply of crude to the refiners who sell the finished product at any price they can get, there might be an opening for outside oil or gasoline.

Both Standard Oil Company and Union Oil Company

Crude Runs to Stills, Gasoline Stocks and Gas and Fuel Oil Stocks

Week Ending June 13, 1931

(Figures in barrels of 42 gallons)

District—	Potential Capacity (Daily) Total	Potential Capacity (Daily) Reporting	Per Cent	Crude Runs to Stills Total	Crude Runs to Stills Daily Average	Crude Runs to Stills Per Cent Operated	Gasoline Stocks (see note below)	Gas & Fuel Oil Stocks
East Coast	633,700	633,700	100.0	3,489,000	498,400	78.6	7,832,000	9,189,000
Appalachian	149,600	137,400	91.8	655,000	93,600	68.1	1,538,000	1,223,000
Indiana, Illinois, Kentucky	436,300	421,500	96.6	2,383,000	340,400	80.8	6,343,000	3,701,000
Oklahoma, Kansas, Missouri	485,700	435,200	89.6	1,883,000	269,000	61.8	3,570,000	4,502,000
Texas	838,200	765,400	91.3	3,962,000	566,000	73.9	7,698,000	10,409,000
Louisiana-Arkansas	233,100	230,500	98.9	1,262,000	180,300	78.2	1,943,000	2,374,000
Rocky Mountain	159,400	142,300	89.3	423,000	60,400	42.4	1,873,000	857,000
California	912,500	880,100	96.5	3,175,000	453,600	51.5	*12,613,000	98,143,000
Total week June 13	3,848,500	3,646,100	94.7	17,232,000	2,461,700	67.5	***43,410,000	***130,398,000
Total week June 6	3,848,500	3,646,100	94.7	16,929,000	2,418,400	66.3	***44,225,000	***130,508,000
Total June 14, 1930	3,683,400	3,526,900	95.8	18,690,000	2,670,000	75.7	****51,854,000	**138,660,000
The Texas and Louisiana Gulf Coastal Figures Shown Below are Included Above in the Totals of their Respective districts.								
Texas Gulf Coast	532,500	531,500	99.8	3,004,000	429,100	80.7	6,515,000	7,350,000
Louisiana Gulf Coast	147,500	147,500	100.0	844,000	120,600	81.8	1,795,000	1,468,000

NOTE: In all the refining districts indicated except California, figures in this column represent gasoline stocks at refineries. In *California, they represent the total inventory of finished gasoline and engine distillate held by reporting companies wherever located within continental United States—(stocks at refineries, water terminals and all sales distributing stations, including products in transit thereto). **Revised due to change in Texas. ***U. S. total figures of gasoline and gas and fuel oil stocks as of week ending June 6, comparable with this week's figures, are 43,997,000 and 130,184,000 respectively, the revisions being due to a transfer in the East Coast district, of gasoline and gas and fuel oil stocks from refinery to bulk terminal storage. These figures are not comparable with a year ago. ****Revised due to change in Ind., Ill., Ky., and Texas.

MARKET SECTION

HOW LAST WEEK'S DAILY AVERAGE PRODUCTION COMPARES WITH NECESSARY AND NORMAL QUOTA LIMIT

State—	Indicated Demand Second Quarter 1931	Economic Limit Second Quarter 1931	Daily Average Last Week	Daily Excess Last Week	Daily Average Since January 1	Daily Excess Since January 1†
Arkansas	58,600	56,000	44,850	—11,150	48,042	—5,958
California	591,500	487,500*	521,100	33,600	530,074	34,274
Kansas	118,300	114,000	101,050	—12,950	108,819	—681
Louisiana	78,900	71,000	58,600	—12,400	68,034	—2,966
Oklahoma	551,000	505,000*	557,850	52,850	518,075	33,075
Texas	798,700	767,000*	993,350	226,350	802,516	138,516
Balance of U. S.	254,000	240,000	205,550	—34,450	207,305	—25,195
Total	2,451,000	2,240,500	2,482,350	241,850	2,282,865	171,065

*Allowable.
†Excess based upon average allowable to date.

failed to post prices for Kettelman Hills crude. It is difficult to tell just what this step means. This field is being held around 60,000 barrels, the allowable. Associated Oil Company is posting prices for this field, however.

The price of export gasoline could not be boosted as much as such a jump in the retail prices might indicate. Weakness in the Mid-Continent market is seriously affecting California exports and a higher schedule does not necessarily force the Atlantic Seaboard to pay higher prices for Canal shipments.

Production is dropping in California and this development is important. The larger producing companies seem determined to reduce the state allowable to the proper total. Only a lower state production will allow the higher price schedule to be maintained.

Reports are current that Russian oil is on its way to California, but such a rumor should not be taken seriously until the oil arrives.

Cracked Gasoline Production

Week Ending June 13, 1931

(Barrels of 42 gallons)

District	Potential Total	Charging Reporting	Capacity* Per Cent	Production Total	Production Daily Average
East Coast	261,300	236,300	90.4	590,000	84,300
Appalachian	52,300	50,100	95.8	149,000	21,300
Ind., Ill., Ky.	330,400	306,400	92.7	582,000	83,100
Okla., Kans., Mo.	237,800	212,000	89.2	359,000	51,300
Texas	450,800	436,200	96.8	869,000	124,100
Louisiana-Arkansas	112,400	112,400	100.0	189,000	27,000
Rocky Mountain	99,100	94,600	95.5	108,000	15,400
California	180,800	180,800	100.0	279,000	39,900
Total week June 13	1,724,900	1,628,800	94.4	3,125,000	446,400
Total week June 6	1,724,900	1,611,300	93.4	3,073,000	439,000
Total June 13, 1931		Not available			
The Texas and Louisiana Gulf Coastal Figures Shown Below are included above in the totals of their respective districts.					
Texas Gulf Coast	352,400	347,400	98.6	683,000	97,600
Louisiana G. Coast	77,000	77,000	100.0	128,000	18,300

Imports of Petroleum

(Barrels of 42 gallons)

	Week Ended June 13	Week Ended June 6
AT ATLANTIC COAST PORTS—		
Baltimore	259,000	65,000
Boston	142,000	30,000
New York	1,180,000	580,000
Philadelphia	228,000	145,000
Others	118,000	.....
Total	1,927,000	820,000
Daily Average	275,286	117,143
AT GULF COAST PORTS—		
Galveston District	.....	.....
New Orleans and Baton Rouge	.....	.....
Port Arthur and Sabine District	.....	(a) 65,000
Tampa	.....	40,000
Total	.....	105,000
Daily Average	.....	15,000
AT ALL UNITED STATES PORTS—		
Total	1,927,000	925,000
Daily Average	275,286	132,143
Daily Average Four Weeks Ended	213,464	193,107
Distribution of Total Imports Is As Follows:		
Crude	1,124,000	(a) 542,000
Gasoline	405,000	214,000
Gas Oil	63,000	52,000
Fuel Oil	335,000	117,000
Total	1,927,000	925,000

(a)—Revised.

California Oil Receipts

(Barrels of 42 gallons)

	Week Ended June 13	Week Ended June 6
AT ATLANTIC COAST PORTS—		
Baltimore	.....	55,000
Boston	.....	.....
New York	155,000	143,000
Philadelphia	.....	190,000
Others	24,000	50,000
Total	179,000	438,000
Daily Average	25,571	62,571
AT GULF COAST PORTS—		
Total	.....	.....
Daily Average	.....	.....
AT ATLANTIC AND GULF COAST PORTS—		
Total	179,000	438,000
Daily Average	25,571	62,571
Daily Average Four Weeks Ended	41,429	54,464
Distribution of Total California Oil Receipts Is As Follows:		
AT ATLANTIC COAST PORTS—		
Gasoline	179,000	438,000
Total	179,000	438,000

MARKET SECTION

United States Daily Average Production

1930	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Av.	United States Total
May	663,300	131,000	662,350	203,900	39,900	53,800	137,150	82,500	623,700	2,597,700	80,529,600
June	665,550	133,600	668,300	210,500	40,300	56,900	135,750	84,600	598,000	2,593,500	77,806,900
July	594,750	121,600	652,350	209,400	40,550	55,400	137,200	98,350	610,450	2,520,050	78,121,200
August	558,850	115,650	646,400	206,600	41,500	55,100	128,550	106,000	611,250	2,470,900	76,597,600
September	558,900	116,550	606,550	200,750	40,150	53,550	121,400	110,650	604,900	2,413,400	72,402,205
October	542,100	114,850	609,500	194,850	41,500	52,800	121,750	104,000	590,800	2,372,150	73,536,350
November	491,550	111,400	579,350	190,100	44,050	52,000	116,400	101,950	601,200	2,288,000	68,639,150
December	459,300	105,550	533,400	189,300	43,000	51,100	112,200	100,500	587,450	2,181,800	67,636,500
1931											
January	452,000	106,350	511,050	188,850	41,100	50,700	110,300	96,700	535,700	2,092,750	64,874,450
February	473,750	114,450	523,700	185,600	43,950	49,950	109,800	100,100	527,300	2,128,600	59,600,450
March	531,900	110,550	585,000	177,950	40,250	47,550	108,800	95,400	528,100	2,225,500	68,990,850
April	543,650	109,250	723,050	185,850	39,050	47,000	111,500	95,500	527,350	3,382,200	71,465,750
May	561,950	107,400	767,200	185,950	39,200	46,650	111,250	97,500	534,150	2,451,250	75,975,950
June 6	552,400	107,000	817,550	178,700	37,750	45,700	109,650	97,100	529,100	2,474,950	17,324,650
June 13	557,450	103,100	805,900	176,350	37,400	45,350	110,150	98,800	528,600	2,463,100	17,241,700
June 20	557,850	101,050	849,650	166,350	35,950	44,850	107,550	98,000	521,100	2,482,350	17,376,450
Increase	400	.....	43,750	.....	.....	.....	.....	.....	.....	19,250	134,750
Decrease	.....	2,050	.....	10,000	1,450	500	2,600	800	7,500	.....	.....

Last Week's Daily Average Production by Districts

TEXAS	June 20	June 13
Panhandle District	58,900	58,000
North Texas	58,300	55,450
West Central Texas	29,550	26,900
West Texas	213,750	214,900
East Central Texas	60,150	60,700
East Texas	371,350	329,000
Southwest Texas	57,650	60,950
Texas Gulf Coast	143,700	148,300
Total Texas	993,350	954,200
OKLAHOMA	557,850	557,450
CALIFORNIA	521,100	528,600
KANSAS	101,050	103,100

LOUISIANA	June 20	June13
North Louisiana	35,950	37,400
Louisiana Gulf Coast	22,650	28,050
Total Louisiana	58,600	65,450
ARKANSAS	44,850	45,350
MOUNTAIN STATES		
Wyoming	41,500	42,900
Montana	8,100	8,050
Colorado	4,450	4,400
New Mexico	43,950	43,450
Total Mountain States	98,000	98,800
EASTERN STATES	107,550	110,150
TOTAL UNITED STATES	2,482,350	2,463,100

Summarized Review of Field Results

State—	Completions This week	Completions Last week	Oil Wells This week	Oil Wells Last week	Gas Wells This week	Gas Wells Last week	Failures This week	Failures Last week	Initial Prod. This week	Initial Prod. Last week
Arkansas	1	1	..	..	..	..	1	1	.....	.....
California	7	9	7	7	..	..	..	2	14,275	19,800
Illinois	1	..	1	..	..	..	..	..	5	.....
Indiana	10	1	..	..	4	..	6	1	.....	.....
Kansas	18	11	10	5	..	4	8	2	5,680	8,594
Kentucky	7	..	1	..	5	3	1	..	5	.....
Louisiana	10	10	4	1	2	2	4	9	1,140	25
Michigan	1	..	..	..	1	1	..	..	.....	.....
New York	..	1	..	..	..	..	..	1	.....	.....
New Mexico	..	1	..	1	..	..	..	..	.....	1,525
Ohio	20	16	2	4	10	13	8	5	131	128
Oklahoma	20	48	12	18	4	6	4	19	40,910	57,169
Pennsylvania	5	12	1	6	..	2	4	1	3	24
Texas	130	125	104	88	2	3	24	34	800,765	564,060
West Virginia	13	12	3	..	7	8	3	4	6	.....
Total	243	247	145	130	35	38	63	79	862,920	651,325
Increase this week	..	..	15	..	..	..	..	..	211,595	.....
Decrease this week	4	..	..	..	3	..	16	..	.....	.....

Comparison of Permits Granted for New Wells

State—	Week Ending June 20	Previous week	This week 1930	Total this month	This month 1930	Total this year	Total this date last year	1930 year total
Arkansas	..	..	1	..	7	23	56	108
California	6	6	28	23	47	218	377	922
Louisiana	5	5	15	14	60	172	532	948
Kansas	9	12	25	32	72	242	531	944
Oklahoma	5	18	84	41	240	498	1,627	2,830
Texas	*105	153	202	305	612	2,838	4,027	7,052
Total	130	194	355	415	1,222	3,991	7,150	12,804

*—Gregg and Rusk Counties—77.

MARKET SECTION

Associated Oil Company posted a price of 66 cents for 30 gravity crude and above produced at Kettleman Hills.

Associated Oil Company will purchase Ventura Avenue crude at seven cents less than the Signal Hill schedule.

California Crude and Refined Stocks Lower

Los Angeles.—Stocks of crude and refined oil on the Pacific Coast on May 31, according to the Pacific Coast office of the American Petroleum Institute, amounted to 175,712,300 barrels, a decrease from the stored supply on April 30 of 1,440,065 barrels. Stocks of crude, however, showed practically no change during May, a decrease of 527,273 barrels of heavy crude being offset by an increase of 525,933 barrels of light crude. Official figures of crude production for May show that the daily average of California during that month amounted to 530,612 barrels, which was an increase over the April average of 3827 barrels. New production obtained from 27 well completions in May amounted to 16,653 barrels.

Oklahoma Market Awaiting East Texas Developments

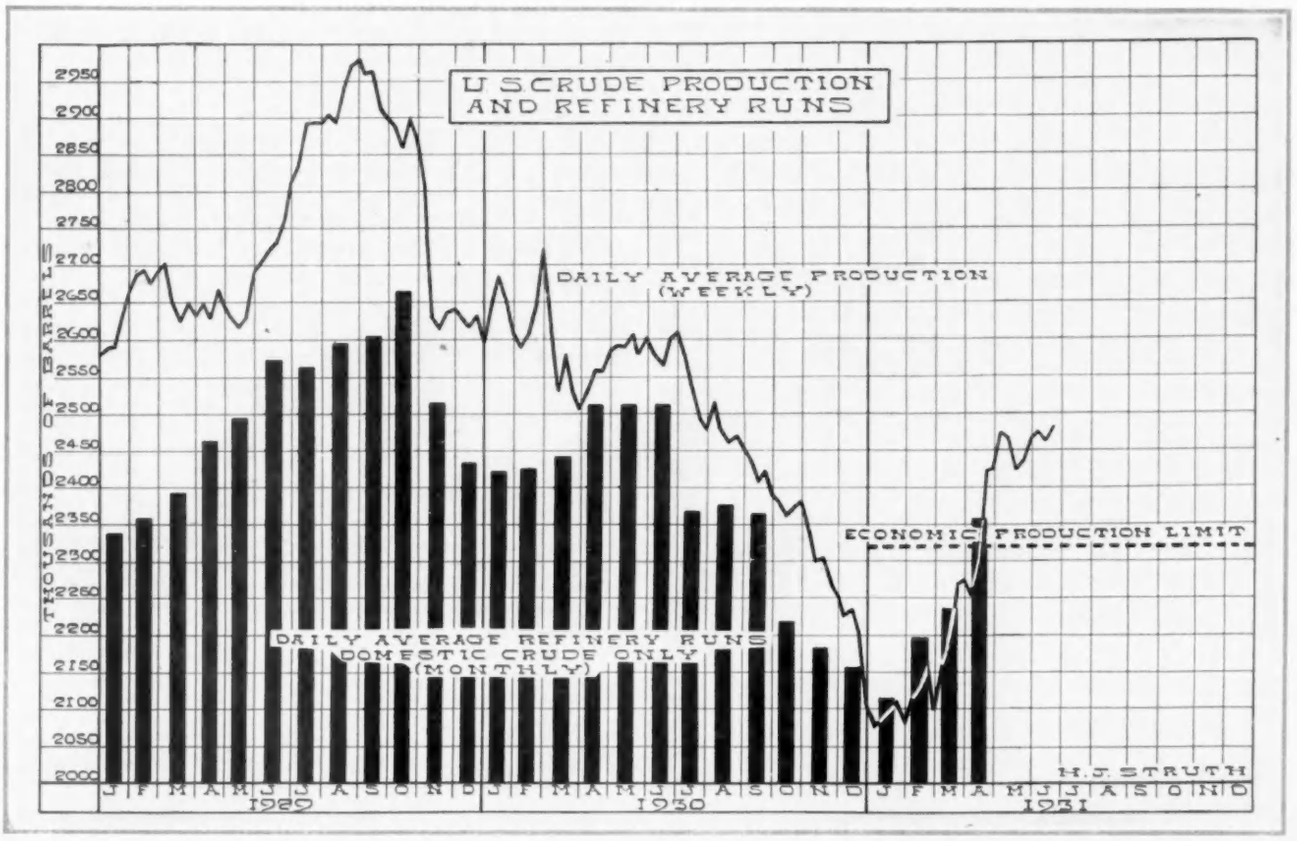
Advances made last week in the California price structure have given encouragement to the Mid-Continent area. While affairs in the Mid-Continent await the changing of the situation in East Texas, it is the general opinion that buyers of crude oil are anxious to get the price to a higher level in order to bring about higher prices for gasoline. The high point of the year's gasoline consumption is now beginning and the petroleum industry faces a period of at least no profit and likely one of doing business at a loss unless there can be some advance in the price of gasoline.

Monday of this week Magnolia Petroleum Company advanced its prices of all grades of gasoline one cent in Oklahoma, following readjustment of its crude price schedule last week.

Only one crude oil transaction of importance has been reported for Oklahoma. Indian Refining Company has bought 300,000 barrels of oil from Indian Territory Illuminating Oil Company in the Oklahoma City field. This oil will be run by Magnolia Pipe Line Company to the Seminole field, where it will be turned over to the Empire-Texas Pipe Line Company for delivery to Lawrenceville, Illinois. The deal was at the posted schedule of Stanolind Oil & Gas Company.

The market for Oklahoma oil seems now to be about down to what it can expect to hold in relation to East Texas. The difference in pipe line tariff to refining points such as Kansas City, St. Louis and Chicago offsets the difference between prices posted in Oklahoma and those being paid in East Texas. This leaves it possible for buyers of large quantities of crude to deal in Oklahoma as favorably as in East Texas. Only those with modern refining facilities, however, can gain this advantage since it is possible to get gasoline of higher anti-knock rating out of East Texas crude by skimming processes.

Gasoline prices continue at their previous level in the



MARKET SECTION

Mid-Continent. The change noted over the week is in East Texas, where quantities of gasoline were offered last week at two cents per gallon. Most of this was promptly bought with the result that gasoline there is quoted now at 2¼ cents over July. Some spot sales are an eighth of a cent under this figure.

Yates Committee Votes to Leave Output Unchanged

Dallas, Texas.—Efforts of a minority group of operators in the Yates field to have the allowable proration quota reduced 10 or 20,000 barrels daily from the current output of 70,000 barrels daily were blocked during a meeting of the proration advisory committee held here June 17. John R. Suman, director Humble Oil & Refining Company and chairman of the committee, presided at the meeting, which went on record as favoring a continuance of proration by the railroad commission another six months period beginning July 1, and also to determine potential production figures in the future on a basis of bottom hole and tubing pressures. Such a plan would preclude the necessity of throwing well open for brief gauges.

Yates crude is in demand with the three major companies engaged in buying the oil, which now commands a flat price of only 25 cents per barrel, and the plea for a reduced output was largely based on the fact that operators do not desire to deplete properties at such a low price. Gulf Production Company held out for a reduction, while Humble Oil & Refining Company, Mid-Kansas Oil & Gas Company and Shell Petroleum Corporation voted to hold the output at 70,000 barrels daily. Mid-Kansas Oil & Gas Company has a long time contract to deliver 30,000 barrels daily to Humble Oil & Refining Company, and if production of the field is further reduced the former would be forced to withdraw storage accumulated during a higher price period at Del Rio to fulfill commitments.

Oil Marketing Code Again Submitted for Approval

New York.—Vote of the board of directors of the American Petroleum Institute is being taken to accept the National Code of Practices for Marketing Refined Petroleum Products as recently revised and approved by the Federal Trade Commission. It is hoped by this method to again confirm acceptance by the industry of the code, as previously accepted by the signatures of 16,000 marketing organizations.

The history of the marketing code is this: On June 29, 1928, the American Petroleum Institute initiated a code which after approval of the institute's board of directors was recommended to the trade commission. A trade practice conference was held in accordance with the commission's rules of procedure, at St. Louis on February 11, 1929. Subsequently, on July 25, 1929, the commission promulgated 21 rules which it approved, these rules being approved by resolution of the institute's board on July 30, 1929. These rules were accepted by the industry at large by each of 16,000 marketing companies and individuals formally signing.

The commission reconsidered and rescinded its approval of the code on January 30, 1931, so changing the rules that they were no longer of force, but upon application of the institute, reinstated its approval pending hearing. A committee of the institute appointed at a conference at Chicago on March 4, 1931, presented to the commission an explanation of the rules and a plea for permanent reinstatement, which has been done with only minor changes. It is these slight changes which now makes vote of the directors necessary.

Crude Purchases Decline in East Texas With Lower Price

Tyler, Texas.—Satisfaction has been gained by East Texas operators that crude buyers generally do not want 10-cent crude, as evidenced by the fact that considerably less crude is moving from the area on spot and contracted sales than in previous weeks even though the price has been cut to a fraction of its former level. Withdrawal of big purchasers of oil to be moved out in tank cars at distress prices and in violation of the commission's proration orders, from the East Texas market, has been apparent for several weeks.

Offers of seizeable quantities of crude testing 38 to 40 gravity at prices ranging down to 10 cents per barrel loaded aboard tank cars, have gone begging in this prolific area during the past week. A flat price of 15 cents per barrel is being paid by a number of the major companies in settling for royalty oil, and on outside purchases.

Washington, D. C.—Consumption of fuel oil by public utility power plants of the United States was less in April by 84,164 barrels, according to figures compiled by the Department of Commerce. Total fuel oil consumption of power plants in April amounted to 561,076 barrels against 645,240 barrels in March, and 636,657 in February. A decline was also recorded in the use of natural gas and coal.

Shreveport.—No other companies on Monday, June 22, had met the new schedule of prices announced effective Saturday, June 20, by Magnolia Petroleum Company for North Louisiana and Arkansas crude. Magnolia Petroleum Company's schedule on districts in these two states follows: Bull Bayou, 36 cents; Haynesville, 27 cents; Pine Island, 32 cents; Cotton Valley, 25 cents; El Dorado, 25 cents, and Rainbow City (Arkansas), 25 cents. Other buyers except The Texas Company are following the Mid-Continent schedule of 37 cents for top price for 40 gravity and above.

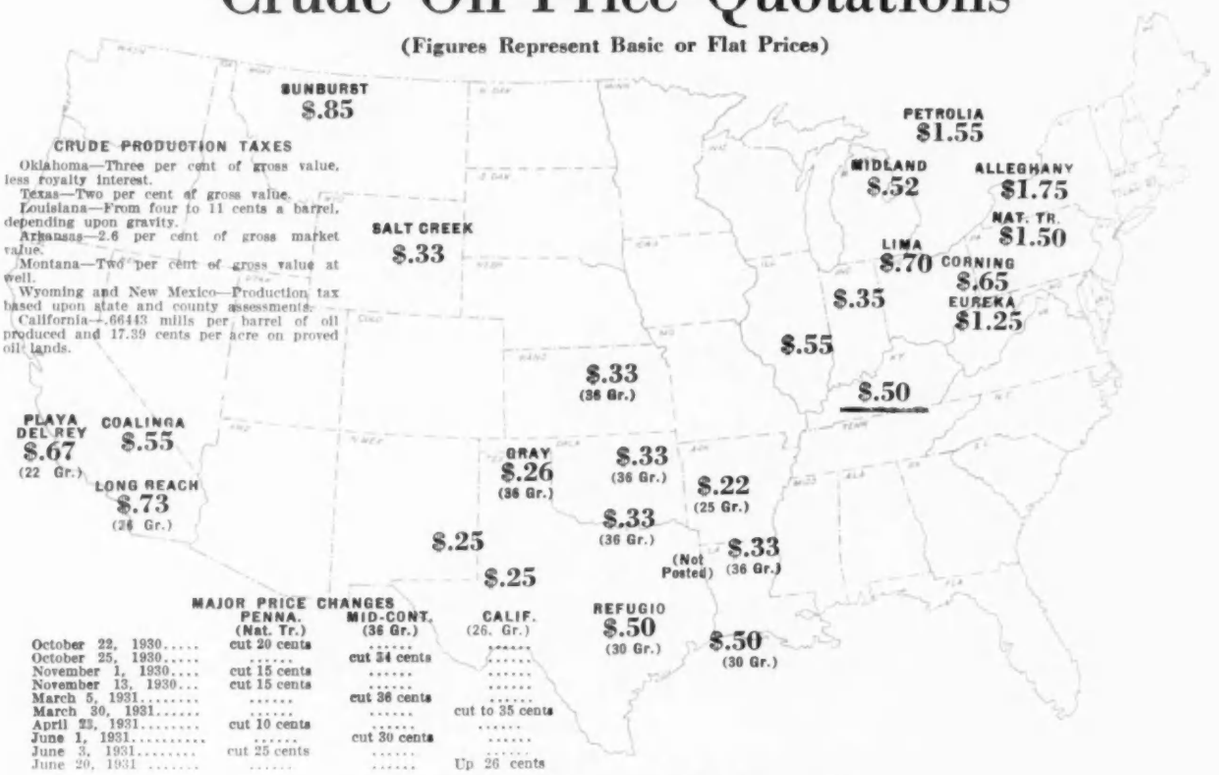
CRUDE PRICE CHANGES

Effective June 19, 1931, Standard Oil Company of California posted increase for all grades of California crude of from 20 to 40 cents a barrel. The new scale of prices was generally adopted by major purchasing companies on June 20. (See pages 21 and 49.)

Effective June 20, 1931, Magnolia Petroleum Company announced the abolishment of gravity scale in future purchases of Mid-Continent crude. Flat prices were posted for various grades of crude in Oklahoma, Kansas, Texas, Louisiana and Arkansas. A flat price of 20 cents a barrel was also posted for East Texas crude. (See page 23.)

Crude Oil Price Quotations

(Figures Represent Basic or Flat Prices)



CRUDE PRODUCTION TAXES

Oklahoma—Three per cent of gross value, less royalty interest.
Texas—Two per cent of gross value.
Louisiana—From four to 11 cents a barrel, depending upon gravity.
Arkansas—2.6 per cent of gross market value.
Montana—Two per cent of gross value at well.
Wyoming and New Mexico—Production tax based upon state and county assessments.
California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

MAJOR PRICE CHANGES

	PENNA. (Nat. Tr.)	MID-CONT. (36 Gr.)	CALIF. (26 Gr.)
October 22, 1930.....	cut 20 cents	.....	.....
October 25, 1930.....	.....	cut 34 cents	.....
November 1, 1930.....	cut 15 cents	.....	.....
November 13, 1930.....	cut 15 cents	.....	.....
March 5, 1931.....	.....	cut 36 cents	.....
March 30, 1931.....	.....	.....	cut to 35 cents
April 23, 1931.....	cut 10 cents	.....	.....
June 1, 1931.....	.....	cut 30 cents	.....
June 3, 1931.....	cut 25 cents	.....	.....
June 20, 1931	.....	.....	Up 26 cents

Official Postings and Differentials

(Revised to June 23, 1931)

California: (Effective June 19, 1931).

Signal Hill, Seal Beach and Alamitos Heights: 14 to 22.9 gravity 65 cents; 23 gravity, 67 cents with differential of two cents for each degree upward. Top price for Signal Hill, 30 gravity, 81 cents; top price Seal Beach and Alamitos Heights, 27 gravity, 75 cents.

Huntington Beach: 14 to 21 gravity, 65 cents; 22 gravity, 66 cents with differential of two cents for each degree upward. Top price, 27 gravity, 76 cents.

Inglewood: 14 to 19.9 gravity 65 cents; 20 gravity 66 cents with differential of two cents for each degree upward. Top price, 25 gravity 76 cents.

Playa Del Rey: 19 to 20.9 gravity 65 cents with differential of one cent for each degree upward. Top price, 25 gravity, 70 cents.

Olinda and Brea Canyon: 14 to 19.9 gravity 65 cents; 20 gravity 66 cents; 21 gravity 67 cents; 22 gravity 68 cents with differential of two cents for each degree upward. Top price, 28 gravity, 80 cents.

Coyote Hills: 14 to 22.9 gravity 65 cents; 20 gravity 66 cents; 21 gravity 67 cents with differential of two cents for each degree upward. Top price, 28 gravity, 79 cents.

Santa Fe Springs: 24 to 26.9 gravity 65 cents; 27 gravity 68 cents; 28 gravity 71 cents; 29 gravity 73 cents; 30 gravity 75 cents; 31 gravity 78 cents; 32 gravity 80 cents; 33 gravity 83 cents; 34 gravity 85 cents; 35 gravity and above 87 cents.

Whittier, La Habra and Montebello; 65 cents a barrel.

Torrance: 14 to 21.9 gravity 65 cents with differential of one cent for each degree to 25 gravity and two-cent differential for 25 gravity. Top price, 25 gravity, 70 cents.

Richfield: 14 to 20.9 gravity 65 cents; 21 gravity 66 cents with differential of two cents for each degree upward. Top price, 25 gravity, 74 cents.

Elwood: 33 gravity 79 cents; 34 gravity 81 cents with differential of three cents for each degree upward. Top price, 36 gravity, 87 cents.

Newhall, McKittrick and Kern River: 55 cents a barrel.

Midway-Sunset, Elk Hills and Buena Vista Hills: 14 to 21.9 gravity 55 cents; 22 gravity 56 cents; 23 gravity 58 cents; 24 gravity 61 cents; 25 gravity 64 cents; 26 gravity 66 cents; 27 gravity 68 cents; 28 gravity 71 cents; 29 gravity 74 cents; 30 gravity 76 cents.

Lost Hills: 14 to 20.9 gravity 55 cents; 21 gravity 57 cents; 22 gravity 59 cents; 23 gravity 60 cents; 24 gravity 62 cents; 25 gravity 64 cents; 26 gravity 66 cents; 27 gravity 67 cents; 28 gravity 69 cents; 29 gravity 71 cents; 30 gravity 72 cents.

Coalinga: 14 to 24.9 gravity 55 cents; 25 gravity 57 cents.

Wheeler Ridge: 55 cents a barrel.

Athens, Dominguez and Rosecrans: 24 to 24.9 gravity 69 cents with differential of two cents for each degree upward. Top price, 34 gravity, 89 cents a barrel.

Oklahoma-Kansas-North Texas: (Effective June 2, 1931). Below 29 gravity 25 cents with differential of 1 cent to 40 and above. Magnolia Petroleum Company posts 22 cents for below 26 gravity with differential of 1 cent to 40 and above. North Texas posting applies to oil produced in **Wichita, Wilbarger, Archer, Northern Young, Van Zandt, Mexia, Powell, Boggy Creek, Richland, Wortham, Currie.**

Ranger, North Texas, Moran and Cook County oil: (Effective June 3, 1931). Below 29 gravity, 25 cents a barrel, with differential of 1 cent for each degree beginning with 29 gravity and ending with 40 and above which is posted at 37 cents a barrel.

Texas Panhandle: (Effective June 3, 1931). Gray County: below 35 gravity 24 cents, with differential of 1 cent each degree beginning 35 and ending 40 and above 30 cents.

Carson and Hutchinson Counties: (Effective June 3, 1931). Below 35 gravity 21 cents a barrel, with 1 cent differential beginning with 35 gravity and ending with 40 and above 27 cents.

East Eexas: (Effective June 3, 1931). Postings withdrawn by all major purchasing companies.

West Texas and New Mexico: (Effective June 3, 1931). **Winkler and Pecos County, Texas:** Flat price of 25 cents a barrel. **Lea County, New Mexico:** Flat price of 25 cents a barrel. **Crane, Upton, Crockett, Ector, Howard and Glasscock Counties:** Flat price of 25 cents a barrel.

Southwest Texas: (Effective June 3, 1931). **Refugio Heavy:** Below 25 gravity—44 cents a barrel. **Refugio Light:** 25-25.9 gravity 45 cents a barrel with differential of 1 cent for each degree to 35 and above which is posted at 55 cents a barrel.

Mirando, 44 cents; **Salt Flat,** 37 cents; **Darst Creek,** 37 cents; **Pettus,** 50 cents.

Gulf Coast: (Effective June 3, 1931). **Grade "A"**—posting eliminated. **Geese Creek, Hull, Liberty, Orange, Pierce Junction, Mykawa, Moss Bluff, Racoon Bend, Barbers Hill, Sour Lake, Spindletop, Sugarland, West Columbia and Humble:** Below 25 gravity 44 cents a barrel with differential of 1 cent for each degree beginning with 25 gravity and ending with 35 and above 55 cents.

Markham crude: 37 cents a barrel

North Louisiana and Arkansas: (Effective June 3, 1931). **Caddo, Homer, Haynesville, Bull Bayou, Sabine, Crichton, De Soto, El-Dorado, Cotton Valley, Sarepta, Carterville:** Below 29 gravity, 25 cents a barrel, with differential of 1 cent for each degree beginning with 29 gravity and ending with 40 and above which is posted at 37 cents a barrel.

Smackover and Bellevue: 25 cents flat. **El Dorado East Field:** 25 cents.

Rocky Mountain States: (Effective June 2, 1931).

Salt Creek: Same as Mid-Continent gravity scale.

Elk Basin and Grass Creek—62 cents a barrel. **Big Muddy**—40 cents a barrel. **Lance Creek**—75 cents a barrel **Rock Creek**—45 cens a barrel. **Sunburst**— 85 cents a barrel. **Mule Creek**—$1.20 a barrel. **Rex Lake**—$1.10 a barrel. **Osage**—50 cents a barrel. **Cat Creek**—$1.25 a barrel. **Pondera**—$1.45 a barrel. **Hogback, N. M.**—1.40 a barrel.

Eastern States: (Effective June 2, 1931). **Lima**—70 cents; **Indiana**—35 cents; **Illinois**—55 cents; **Princeton** 55 cents; **Wooster**—73 cents—**Western Kentucky**—50 cents.

Pennsylvania: (Effective June 3, 1931). **Bradford district**—$1.75; **National Transit oil**—$1.50; **Southwest Pennsylvania Pipe Line oil**—$1.35; **Eureka Pipe Line oil**—$1.25; **Buckeye Pipe Line oil**—$1.00; **Corning crude** 65 cents.

Michigan—

Midland (Effective June 1, 1931)—75 cents a barrel.

Muskegon (Posting follows Mid-Continent gravity scale).

Canada: (Effective June 4, 1931). **Petrolia**—$1.55; **Oil Springs** $1.62.

Fate of "Cranfill Plan" Weighed in the Balance

Tyler, Texas.—Action taken by a number of operators in ignoring the voluntary proration plan put into effect on the morning of June 20 at the request of a big majority of the independent companies and operators in East Texas, and the failure of the Texas Railroad Commission to approve the substitute method of restricting production, forecasted a disappointing ending. This new method of proration is known as the "Cranfill plan" through having been written by Tom E. Cranfill, president of the Independent Petroleum Association of Texas, and other East Texas producers.

Success of the plan rests largely with the support given by operators voluntarily, and promptness shown by major companies in expanding their field gathering systems to provide market outlet to wells now awaiting connections, according to Cranfill. This needed relief for wells not connected and serviced by pipe lines is not expected to materialize because of the expense involved, and by reason of the fact that such companies that would normally be expected to scatter their purchases equitably are not in sympathy with the plan of proration, but prefer the enactment of a new and rigid proration law.

An unexpected setback was given the "Cranfill plan" when Magnolia Petroleum Company released a revised price schedule for East Texas to be effective on the starting date of the new proration method that reduced the scale from a top price of 37 cents per barrel to a flat price of 20 cents. Supporters of the Cranfill plan were hopeful that enforcement of same would cause other crude purchasers to boost their price schedules to the former level maintained by Magnolia Petroleum Company, which was the last active crude purchaser in the district to cut prices to a low level. Even with this reduced price Magnolia Petroleum Company is paying five to 7½ cents per barrel more than the average price posted, or used as a basis of paying for current purchases.

Assuming that the "Cranfill plan" is doomed to fail because the handicap under which it is trying to operate, the next move will be for the governor to take a hand in the matter and call a special session of the legislature to enact a set of conservation laws that will deal specifically with the East Texas oil situation, and any other fields of market-disturbing qualities in the future. However, before the legislature is asked to convene assurance will be had of a majority vote favoring rigid proration enforcement.

Market conditions and particularly the price situation in East Texas are expected to sink to lower levels before the lawmaking body assembles. Such will be a trying period for the small operators, but those that succeed in pulling through anticipate a fairer price for their production than the prevailing 10, 15 and 20-cent sales.

Sponsors of the Cranfill form of proration are openly opposed to an extra session of the legislature, called to put into effect a rigid proration law, while those opposing the "Cranfill plan" are equally as strong for such legislation to deal with the East Texas situation.

Arkansas Fuel Oil Company was the first large operating company in East Texas to completely ignore the "Cranfill plan," and in order to escape penalties for violating the existing rules of the Texas Railroad Commission this company applied for a temporary injunction in District Court at Austin June 18. Representatives of Arkansas Fuel Oil Company have announced that adherence to proration rules of the commission will be resumed as soon as a legally authorized proration program is enforced generally, as the company withstood several weeks of excessive drainage by offset wells owned by proration violators, but now it is to flow its full interest wells to the extent of its pipe line and tank car transportation facilities, which were being used to the extent of about 40,000 barrels daily late last week.

Dismissal of the first court injunction against the commission's East Texas proration order was made last week at the request of Carl Estes, Tyler newspaper editor, who filed suit immediately after the proration order was issued to be effective originally on April 10. This move by Estes was made to aid in winning the support of the commission for the "Cranfill plan," which he has endorsed and supported. Estes has led the fight against proration of any form in East Texas until the "Cranfill plan" was submitted, and is opposed to the enactment of new laws governing proration enforcement.

Henry McGraw, Mid-Continent Leader, Buried at Ponca City

Tulsa.—The funeral of Henry McGraw, vice president and general manager of Gypsy Oil Comany, was held June 23 in Ponca City, the home of the McGraw family since territorial days. Mr. McGraw died in Baltimore June 19, following an operation for abdominal disorders. He had been in ill health for several months and last year spent a period at Battle Creek, Michigan.

Mr. McGraw had been one of the outstanding oil company executives of the Mid-Continent area for a decade. Most of his work in the petroleum industry was with Gypsy Oil Company, the Mid-Continent wing of Gulf Oil Corporation. After finishing school at the University of Kansas in law, he returned to Oklahoma and began practice. He was shortly engaged in legal work connected with oil. His first connection with the Mellon interests was in a legal capacity. This experience together with that in the land department brought him into line as the Mid-Continent head of Gypsy Oil Company with the resignation of Murray M. Doan several years back.

In 1927 Mr. McGraw was chosen president of the Kansas-Oklahoma Division of the Mid-Continent Oil & Gas Association. After serving one term, he declined to accept re-election.

He was the brother of James J. McGraw, former president of the Exchange Banks of Tulsa. The two were reered near Ponca City, where they had their early schooling. Later banking and petroleum brought them to Tulsa, where each was a leader in his work.

Henry McGraw was born at Leavenworth, Kansas, where his father was engaged in operating overland freight lines to Denver. With the passing of overland freight hauling, the McGraw family moved to central Kansas, near Wichita. Shortly after the opening of the Cherokee strip in 1893, the family came into the Indian Territory.

Interment was in the mausoleum at Ponca City, where the parents and brother are buried.

Active pall bearers were J. E. Burns, J. W. Donahue, W. H. McFadden, Harry Cragin, Dr. George H. Niemann, R. Otis McClintock, James B. Diggs and Rush M. Greenslade.

East Texas Gasoline From 10 to 12 Cents

Longview, Texas.—Prior to completion of refineries in East Texas, gasoline was sold at retail for 16 cents a gallon, including tax. With increasing quantities of gasoline placed on the market in East Texas, originating at local refineries, the retail price dropped to but 12 cents a gallon. Today, many gasoline retailers in this vicinity are selling motor fuel for as little as 10 cents a gallon, with 11 cents predominating among practically all of the major company stations.

Personal Mention—Men You Know

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Glenn Kahle, who was general superintendent for the Humphreys interests during the banner days of the Mexia field, is now superintendent in charge of field operations in East Texas for Byrd-Frost, Inc., Dallas producers, with headquarters at Kilgore, Texas.

Dave C. Stewart, vice-president Magnolia Pipe Line Company, Dallas, departed last week on his annual pilgrimage to Mt. Clemens, Michigan, where he awaits the passing of the hot weather season.

Walter F. Rogers, research department, Gulf Companies, Houston, was married June 17 to Miss Caroline Monroe, daughter of Mr. and Mrs. W. O. Monroe of Houston. After the wedding they left by auto on a trip to Carlsbad and other places in New Mexico.

George H. Stoddard, of Buck & Stoddard, has been appointed receiver for McKeon Oil Company, a California corporation.

Percy F. Matlock, formerly of the Harrisburg Pipe and Pipe Bending Company, Houston, has been made sales manager for the Howard Smith Company, Houston, Texas. Mr. Matlock was with the Layne and Bowler Company six years, with the sales and production department and as purchasing agent. He later went with Harrisburg Pipe and Pipe Bending Company, during which time he helped organize the Corbett Corporation and the Kinzbach Tool Company, acting as vice-president of each organization. Mr. Matlock spent nine years with this company before he became connected with the Howard Smith Company.

PERCY F. MATLOCK

G. M. Davidson, who has been general superintendent of natural gasoline plants for Empire Oil and Refining Company has been made chief engineer for Continental Construction Company which is building a 24-inch gas line from the Texas Panhandle to Chicago. The company is moving its general offices to Chicago and Mr. Davidson will make his headquarters there after July 1.

B. H. Markham, comptroller; R. R. Zimmerman of the personnel department; and E. R. Skinner, head of the pipe line department of Continental Oil Company, spent last week on an inspection tour of the North Texas oil areas.

C. R. Weidner, Prairie Pipe Line Company, has been made chairman of the committee on corrosion of oil field equipment, a unit of the American Petroleum Institute, division of production.

Dr. R. G. A. Van der Woude, new president of Shell Petroleum Corporation, has returned to St. Louis after completing a trip through the fields of East Texas, Oklahoma, and Kansas. He was accompanied to East Texas by George S. Rollin, vice-president in charge of production and Dr. Van Holst, vice-president and chief of the land and geological departments. E. G. Allen, manager for Texas and New Mexico, joined the party in Texas. On the trip through Oklahoma and Kansas he was accompanied by Ralph B. Roark, superintendent of production for Kansas and Oklahoma; R. E. Shutt, chief geologist of Tulsa; and E. S. Pratt, division geologist for Kansas.

H. L. McQuiston has been made division superintendent for Phillips Petroleum Company with headquarters in Wichita, Kansas. Offices were moved from El Dorado to Wichita on June 20. Other changes in the production department include the transfer of Robert Jolley to the Oklahoma division, Charles Daniels as superintendent of the Refugio area, and George J. Turner in a like capacity in the Pampa area.

R. G. Bowman, assistant sales manager of General Petroleum Corporation, has returned to Los Angeles, following a trip to the offices of Standard Oil Company of New York at New York City. He also spent some time with Mid-Continent subsidiaries of the parent company.

Jack Tait, well known field superintendent, has been appointed manager of field operations for Kettleman Production Syndicate, which will drill a test on the south slope of the North Dome. He was connected with Union Oil Company during the height of development in the Midway-Sunset district.

W. A. Nicholas, independent operator of Roswell, New Mexico, and an executive of Baker Oil Company, recently organized to drill in Lea County, has returned to New Mexico, following a visit to California fields.

Robert E. Allen, assistant to Umpire H. P. Grimm, has returned to Los Angeles from Dallas and other Mid-Continent points.

E. E. (Ned) Robbins has been appointed division sales manager of the Midwest Division of the Oil Well Supply Company, a subsidiary of the United States Steel Corporation, and will have headquarters in Tulsa. In his new capacity he will have charge of sales in the Mid-Continent, Texas, Louisiana, Arkansas, Gulf Coast, Rocky Mountain and Canadian oil fields. For 10 years Mr. Robbins was associated with McCord Radiator and Manufacturing Company, handling oil field sales in the Mid-Continent and California territories. He was with the National Supply Company at Tulsa, for one year in charge of sales of Superior Gas Engines. During the past five years he has been vice-president of C. F. Camp Company, Tulsa, and in this capacity he was instrumental in the advancement and development of gas engines for rotary drilling.

E. E. (NED) ROBBINS

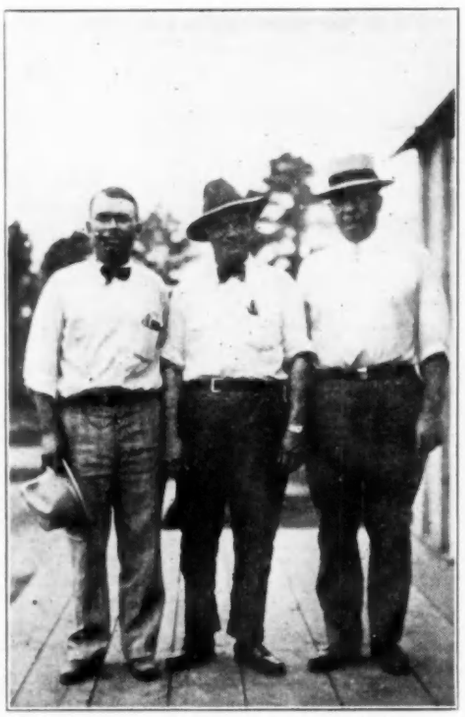
"SHOTS FROM THE HOT SPOT"

Cal. M. Shugert, left, salesman for Peden Company, Gladewater store, formerly with Wertzberger Derrick Company of Tulsa, and J. E. Webb, Texas Rubber Specialty Company, Overton. Webb formerly served The Texas Company's production department in South Louisiana

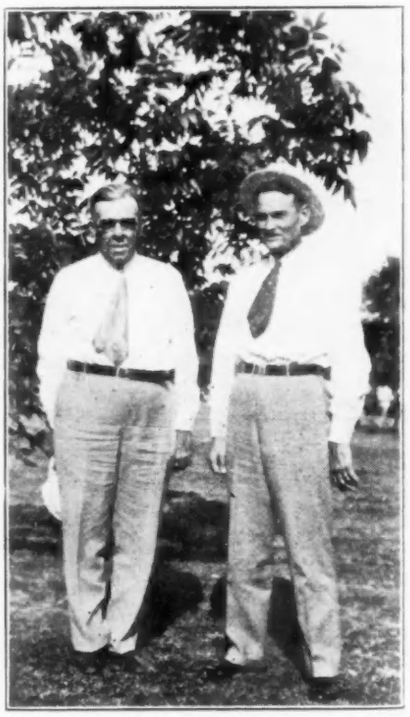
J. E. Justice, district manager for Hinderliter Tool Company in East Texas fields, coming down from Oklahoma with the opening of Hinderliter's first East Texas store

J. H. Kirkpatrick, left, and J. N. Martin, Texas representatives for Allis-Chalmers Manufacturing Company, Longview. Kirkpatrick formerly was stationed at Dallas and Big Spring, covering North and West Texas, while Martin's headquarters are at Houston

Jack Petrosky, farm boss for Warner-Quinlan at Joinerville, left, with "Top" George, manager of T. T. Word Supply Company stores at Joinerville and Overton



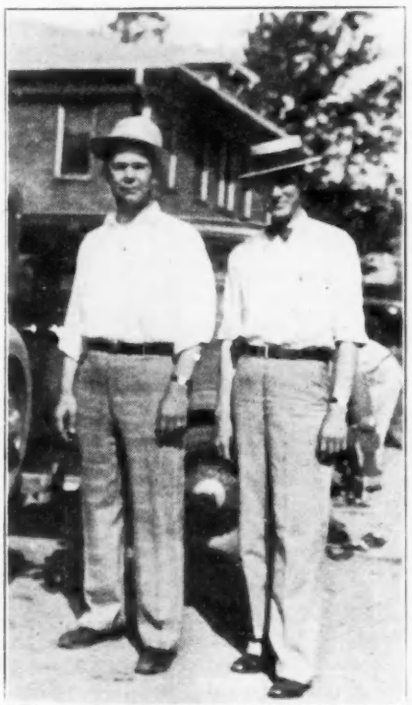
L. L. Boone, trucking contractor of Duncan, Oklahoma, left; O. E. Keifer, salesman, Marion Machine Foundry & Supply Company, and C. C. Chamberlin, Mid-Continent manager for the Marion organization



W. C. Andrus, left, and Lew D. Hilton, representing Cameron Iron Works in distribution of control equipment. Both were veteran operators before entering the equipment end

A Photographic Record of Who's Where in East Texas

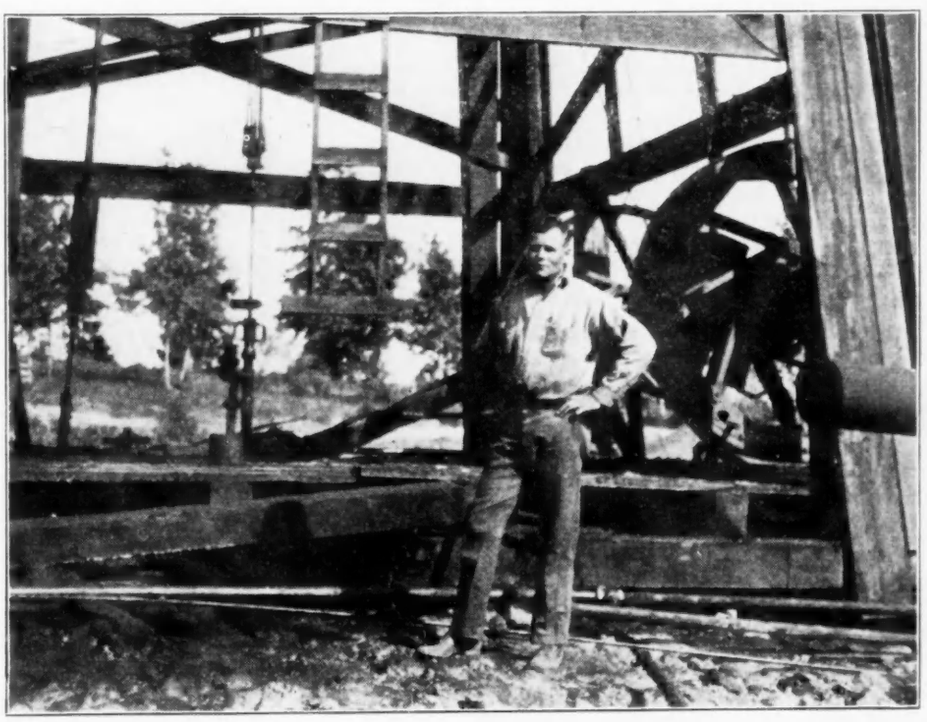
F. J. Kopp, machinery engineer, left, and V. V. McGrew, sales representative, both with Frick-Reid Supply Corporation



L. P. Blanton, left, production department, Simms Oil Company, Longview, and J. H. Bell, Stahlman Lumber Company

George O'Leary, Houston Oil Field Materials Company, left, with P. R. Wimberly, warehouseman for Humble Oil & Refining Company at Kilgore

C. C. Jessup of Shreveport, who introduced the Bostic pilot drill bit into East Texas. Jessup is an old-timer in the Gulf Coast



G. B. Smith, field man in Mexia and other Central Texas fields, put the first pumping well in the Joinerville field on the pump. He is shown here in charge of pumping the East Texas discovery well, Joiner's Bradford 3, now E. R. Tenant, Receiver, property

Oil and Gas Pipe Line Activities

▼ ▼ ▼

Complete Index of Pipe Line Rates

The rate for transporting crude by pipe line from Humboldt, Kansas, to Bayonne, New Jersey, via Griffith, Indiana, and Rixford, Pennsylvania, is 76¾ cents a barrel, plus a gathering charge of 20 cents a barrel. From Lea County, New Mexico, to Baytown, Texas, the pipe line rate is 40 cents a barrel, with a gathering charge of 12½ cents a barrel. The rate charged by various pipe line companies to points in practically every section of the United States is quickly found in a complete digest of pipe line rates which has recently been compiled by the National Petroleum Association.

The pipe line digest, together with a supplement, shows pipe line rates for line haul transportation and gathering charges on file with the Interstate Commerce Commission as of May 1, 1931. It also gives rates filed on gasoline pipe lines of the Great Lakes Pipe Line Company, Phillips Petroleum Company and Tuscarora Oil Company, Ltd. It includes an alphabetical list of pipe line companies, with reference number referring to schedule of rates and gives complete data on piping charges from hundreds of origin to destination points throughout the country. The pipe line digest can be obtained for a moderate charge from The National Petroleum Association, Munsey Building, Washington, D. C. It is being distributed free to members of that association.

Associated Reconditions Old Coalinga-Monterey Screw Line

Coalinga, Calif.—Associated Oil Company is now making regular use of its old six-inch pipe line between Coalinga and Monterey, following complete reconditioning of the ancient screw line which was first completed in 1904. The line was uncovered and repaired and converted into a light crude carrier. All corroded sections and collars were cut out and new sections welded in. The work was completed in 75 days. The line is handling about 12,000 barrels daily, but the capacity will be increased to 25,000 barrels through addition of more efficient pumps.

San Augustine-Beaumont Line Is Completed in Record Time

San Antonio, Texas.—What is believed to be a world's record in speed of pipe line construction was established early this month by N. A. Saigh Company, pipe line builder of San Antonio, on construction of the 60 miles of 10-inch pipe line for The Texas Pipe Line Company between San Augustine and Beaumont, Texas.

Contracts for the work were let to N. A. Saigh Company on May 2, with the understanding that 42 working days would be allowed the contractor to complete the line. Work was begun on May 7, with one crew operating at the rate of two miles per day. When 22 miles had been completed in approximately 10 days, The Texas Pipe Line Company requested that the line be completed as quickly as possible, due to certain emergencies which had arisen in the East Texas field.

Thereupon the construction company doubled its crews, and beginning on the morning of May 30 and continuing through the night of June 2, completed, for purposes of pumping oil, 25 miles of 10-inch pipe line in four days.

On the morning of June 3, after the last 25 miles had been welded and built to fit the contour of the ground, The Texas Pipe Line Company began pumping, gradually increasing the pressure to 750 pounds per square inch for a capacity of 50,000 to 70,000 barrels of oil per day.

Gas Distributing Systems Are Completed in Wyoming

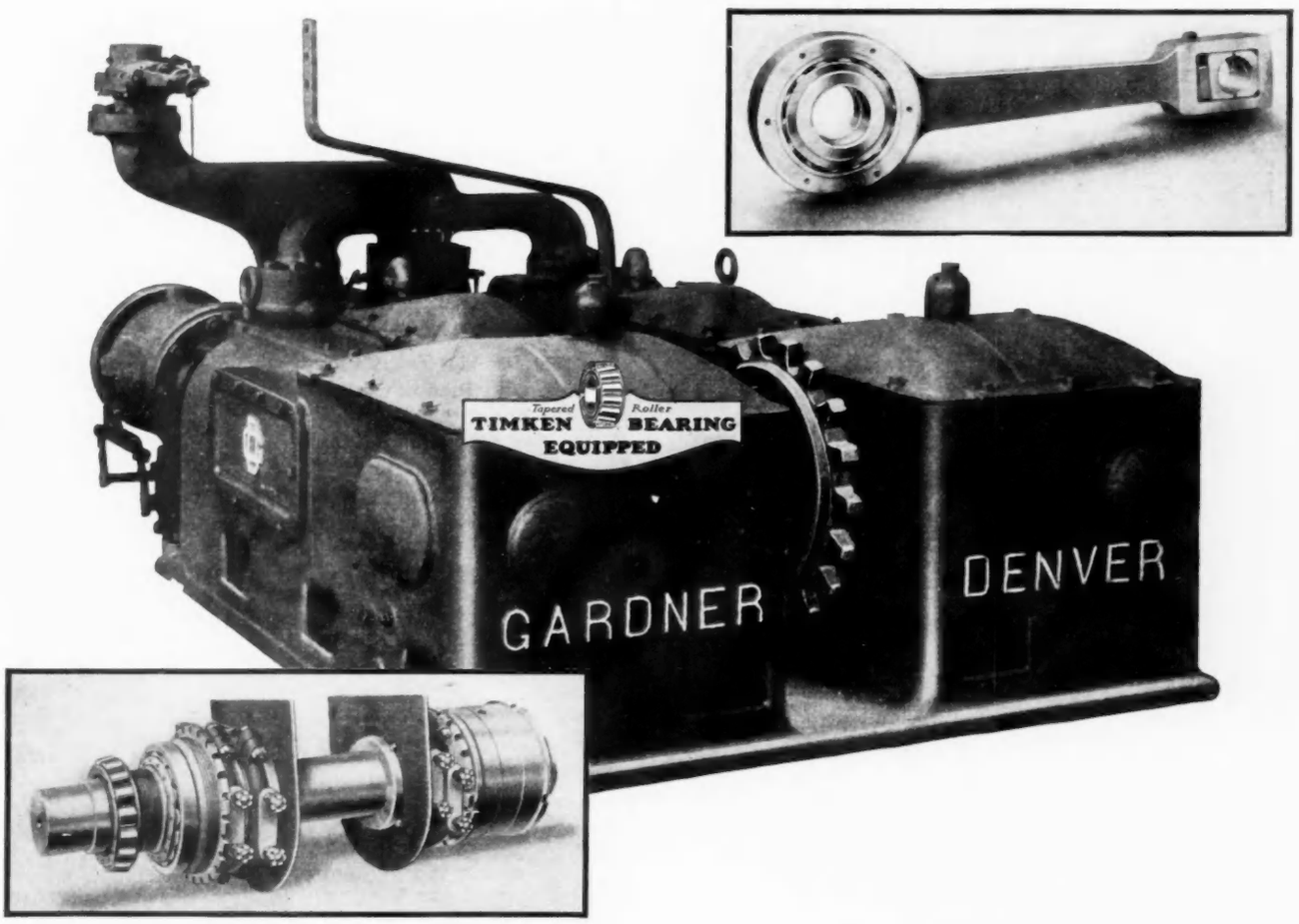
Casper, Wyo.—Natural gas distributing systems have been completed by North Central Gas Company (New York Oil Company) in Douglas, Guernsey, Fort Laramie, Lingle, and Torrington, Wyoming. The company is now working on such systems in Nebraska towns, and is going steadily forward in the work of bringing natural gas to Eastern Wyoming and Western Nebraska communities from Central Wyoming gas fields.

The old Sinclair pipe line from Teapot Dome is to be utilized for most of the distance, and work of cleaning and repairing it is now under way by Stanolind Pipe Line Company, to which it now belongs. A booster station at Casper is nearing completion, one building having already been completed, and foundation finished for the main structure. One big engine is already in place.

Many Small Lines Planned For Kettleman Gas Disposal

Los Angeles.—Completion of the principal gas distribution lines which connect Kettleman Hills and the various large cities of central California will not necessarily end construction work, since many smaller lines to serve cities and towns not having natural gas, will be laid during the next year. A 26-inch line is being laid between Long Beach and Kettleman Hills, but this particular line will not necessarily lead to several smaller laterals. The entire San Joaquin valley is being piped for natural gas, the principal source of supply being Kettleman Hills and Buttonwillow.

Bartlesville, Okla.—July 15 is the date tentatively set for completion of Continental Construction Company's 24-inch gas line from the Texas Panhandle to Chicago by way of Omaha. From four to six weeks will be required for fully testing the line and it should be delivering gas on a commercial scale not later than September 1. A recent report shows that more than 750 miles of main line construction has been completed with work on compressor stations well ahead of schedule. When completed it will be the longest 24-inch gas line in existence.



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THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

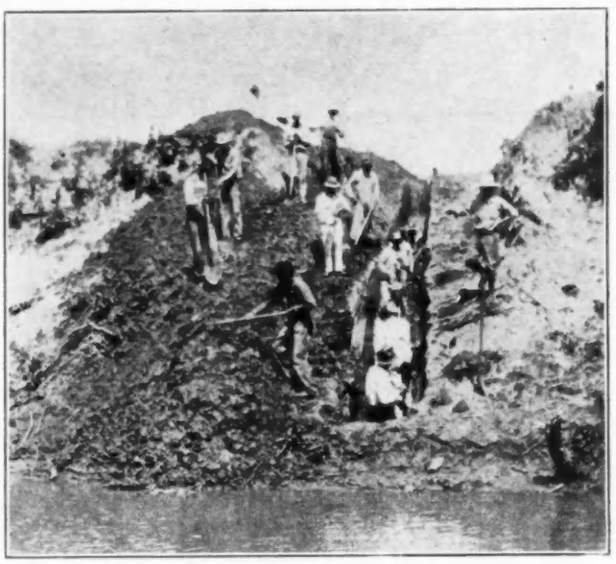
TIMKEN *Tapered Roller* BEARINGS

Showing river bank cut in foreground, with line continuing across future bed of water reservoir

Special Pipe Assures Tight Line Across Water Reservoir

Fort Worth, Texas.—Special 10-inch pipe weighing 55 pounds per foot has been used by The Texas Pipe Line Company in a crossing for the Eagle Mountain water reservoir that is being constructed in northwestern Tarrant County to provide a future water supply for Fort Worth. The site for the reservoir overlies right-of-way of an eight-inch and a six-inch crude line of the above company, which elected to replace the two lines with a new and larger unit rather than to construct about 30 miles of line in building around the body of water. Unusual precaution was taken to assure a perfect and sturdy substitute line, as same will eventually be covered with 40 feet of water that can not be contaminated without serious consequences.

The narrowest point on the future lake was chosen by The Texas Company for its crossing, and 4100 feet of specially made seamless pipe was fabricated by Youngstown Sheet & Tube Company. The pipe has a wall thickness of one-half-inch, and was made up into joints 42½ feet in average length, with beveled butt weld joints. Acetylene was used in welding the joints, with a supervisor present at the welding of each. Customary river clamps were attached to that section of the pipe crossing the old channel of Trinity River, while that portion of the pipe strung on the bed of the future lake was buried 28 inches. J. B. Haden, superintendent for The Texas Company in Central Texas, supervised the construction work, which was completed last week after the line withstoood a constant pressure of 825 pounds. Water was used for this pressure test. The reservoir section of the line was insulated by a coat of primer paint followed by a hot application of No. 35 Texaco asphalt, then wrapped with felt paper.



Trenching river bank at entrance to future water reservoir

R. E. Davis, chief welder at Port Arthur refinery of The Texas Company, shown at work on manifold connections that will tie in the two small oil lines with the 10-inch lake crossing line

Franchise for Line From Baggs Structure Sought

Cheyenne, Wyo.—C. E. Bivens has appeared before the Wyoming public service commission, asking for a certificate of convenience and necessity to lay a gas pipe line from the Baggs structure to Laramie, with an extension to Saratoga, Rocke River, Bosler, and eventually Cheyenne.

The Baggs structure has been proved for natural gas by joint operation of Red Feather Oil Company and Producers Oil Corporation. There is reported to have been developed about 15,000,000 cubic feet from two shallow wells, and a third well—a deep test—has been drilled to 2200 feet where it is believed to be on top of big gas production.

Bartlesville, Okla.—Empire Pipe Line Company has recently completed installation of new centrifugal pumping units in the Vinco and Edmond stations on its Oklahoma City to Cushing eight-inch oil line. Each unit includes a 250 horsepower, three stage motor, and a four-inch centrifugal pump which raise the line capacity to a maximum of about 40,000 barrels daily. The line was formerly rated at 35,000 barrels daily.

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The fine, soft hair of the best paint brushes lays a smooth coat of paint, bends gracefully in the process of slapping and daubing rough places—and goes on doing its job long after poorer brushes have fallen to pieces.

The flexible cups of the Guiberson Swab lift a full load of oil, give way to wrinkles, dents and protrusions in the casing—all the while retaining the fluid without losing a drop—and go on making trip after trip into the hole, showing only the slowest wear. The cup rims maintain a perfect seal with the casing walls, even with the rough places; the heavier the column of oil, the tighter the seal. Guide wires steer the cup rims over the dangerous areas, taking full advantage of their flexibility to avoid damage. Pressure from below collapses the cups, allowing far speedier passage into the well. The Guiberson Swab is doing most of the world's swabbing today.

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News From California Fields

BRAD MILLS, ***Staff Representative, Los Angeles, California***

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Huntington Beach Deep Test Resumes Drilling

Los Angeles.—Superior Oil Company has selected Gillette 7-2, a deep test in the Huntington Beach field, for deepening from 6990 feet and may continue to a production test at some depth below 7000 feet. A string of nine-inch casing was cemented at 6987 feet and the well shut down to bring the company's total idle wells to three.

Fee 1, the first deep test, was drilled to 7491 feet and shut down without a test. Eberle 1 and Gillette 7-2 followed and were shut down after casing was landed. The former is standing idle at 7177 feet, with nine-inch casing cemented on bottom. W. E. McCaslin is coring ahead at 7850 feet in Transport 17, a deep test which failed to produce below 7000 feet.

The better price for oil may influence operators in their desire to test the deep zone, but only completion of a good well would result in an extensive drilling campaign. Reports that Wilshire Oil Company would drill several wells to the deep zone were premature and no wells will be deepened at this time. Sentiment in and near Huntington Beach strongly favors development of possible deep zones, but the industry as a whole is anxious to postpone action.

Taft, Calif.—Birch-Royer Oil Company has suspended operations in Maricopa 2, a deep test in the Maricopa Flat district, following an unsuccessful test at 9000 feet. About 850 feet of 4¾-inch liner was landed on bottom, but the well failed to respond to the swab. The hole was swabbed dry and little fluid entered the hole. The liner was pulled and the hole will be plugged back to produce in the upper zone.

North Belridge Deep Well Settles to 7500 Barrels

Bakersfield, Calif.—Associated Oil Company's Reward 4, completed a week ago in the deep zone at North Belridge with an initial production of 8750 barrels, has settled to a flow of 7500 barrels of 40 gravity oil and around 8,000,000 cubic feet of gas. This 5510-foot completion more definitely establishes the narrow producing strip as a potentially important discovery and proves the discovery well to have been bona fide in every respect. Completion of the company's first deep well as such a large producer is an unusual mechanical achievement. The oil is clean and the gas-oil ratio nearly ideal. North Belridge may fast become a real factor in the production of light oil, but the output will be held to a comparatively low figure.

Belridge Oil Company, discoverer of the deep zone at North Belridge and owner of the bulk of the acreage along the narrow producing strip, has found the Temblor formation at 4930 feet and will run a string of casing to about this depth. Following the completion of the discovery well, this company started five wells, but soon shut down three of this number. Activity was reduced because of the poor showing made by offsets and desire to drill as few wells as possible.

Continental Oil Company made a formation test at 5250 feet in Result 2 and will run a string of casing for a production test. The preliminary test was very satisfactory.

Past development indicates a production trend slightly toward the west. Wells on the northeast flank were disappointing and it was soon determined that the Temblor will not produce over a much wider area than the shallow zone.

Elwood Field Completion Has Much Smaller Initial

Santa Barbara, Calif.—Pacific Western Oil Company has completed No. 92-8 in the Elwood field with an initial production of only 1200 barrels. This is a radical departure from the unusually high initial recorded several months ago in various tideland completions. The well was drilled to 3418 feet and might make a larger producer if tested under the same conditions that prevailed last year.

Although the Elwood field has been one of the best producers in the state, field work has been held down by mutual consent of the several operators. Barnsdall Oil Company and Rio Grande Oil Company, joint operators are fishing at 6017 feet in Bishop-Evans 1, an outpost test, and the well does not offer much promise for an extension. The companies' Bell 14, a deep test near the center of the field, has been shut down at 4392 feet. The deeper zone showd promise, but no production test was made.

Tideland activity is at a complete standstill. Several locations were made for ocean tests, but the futility of further drilling was so obvious that all companies abided by orders to limit operations.

The Elwood field accounted for some of the largest wells ever completed in California. The producing zone is only 300 feet thick, but the formation is very porous and well saturated.

Lawndale Field to Receive Another Shallow Zone Test

Los Angeles.—After a long period of idleness, the Lawndale field will be the scene of another test to determine the possibilities of a shallow zone in this most questionable district. Regarded as one of the trickiest fields in the Los Angeles Basin, Lawndale is held with little concern by the larger operators. Pacific Shore Oil Company has made location for Durand 1, near Chicago and Inglewood Avenues and south of the discovery well. During the frenzy of development more than two years ago, the 5000-5500-foot zone was not tested, although cores showed streaks of oil sand. This shallow formation will be cored and tested in the latest test. Smith Development Company recently plugged back in Peck 1 and secured a satisfactory flow around 5300 feet.

North Dome Completion Good for 10,700 Barrels

Coalinga, Calif.—Standard Oil Company of California, owner of more than one-half of the acreage on the North Dome at Kettleman Hills, has completed No. 85-29J, Section 29-21-17, with an initial production of 10,700 barrels. The well was drilled to 8173 feet and is an offset to Superior Oil Company's Huffman producers. The gas-oil ratio is not as good as in some of the most efficient producers, but with a total gas flow of 30,000,000 cubic feet the waste will be nominal. This is the sixth completion on the North Dome for the company and brings its production up to 30,000 barrels. The well is producing from about 1000 feet of Temblor formation, although considerably more of the zone was cut below the 9⅝-inch shutoff at 6846 feet. The 6⅝-inch oil string was landed on bottom and cemented through perforations at 7174 feet. Most of the gas zone was cemented off, but the top of the formation below the upper perforations evidently is yielding more gas than needed. In cementing through perforations to shut off the upper gas zone, there is no definite amount to exclude. It has been noted that wells near the top of the structure produce more gas than edge wells, all things being considered. For this reason, it may not be possible to obtain the same efficient gas-oil ratio on inside wells as in outside producers.

Standard Oil Company is ready to complete No. 47-35J, an offset to Petroleum Securities Company's Felix 2. This well was drilled to 8234 feet and has a combination 6⅝-inch oil string landed at 8223 feet and cemented through perforations at 7384 feet. The 9⅝-inch shutoff over the Temblor was effected at 6697 feet. A smaller flow string was run to 6630 feet. Both of Petroleum Securities Company's Felix wells were good producers and Standard Oil Company's offset should be equally as good. The penetration of the Temblor is sufficient to insure the maximum flow, with shutting off of the upper part indicating a low gas-oil ratio. This company has been busy with offsets, despite a desire to drill the minimum number of producers.

Kettleman North Dome Association is preparing to complete Milham Exploration Company's No. 23-1P, which was drilled to 8338 feet. Top of the Temblor zone was found at 6810 feet and a string of 9⅝-inch casing cemented in the shale at 6761 feet. The full penetration will not be included, the top of the producing formation to be cemented off through perforations to reduce the gas-oil ratio.

Shell Oil Company has passed a depth of 8700 feet in Dixon 1, an outpost test which should make a good producer and extend the field considerably. Nearly 1500 feet of Temblor formation have been cut and only a small amount of additional hole will be made before the production test. The last cores showed a good oil sand and shale. Completion of a good well at this point would greatly increase the possibilities of several outlying leases in this part of the field.

North American Consolidated Oil Company is coring brown shale at 8075 feet in Blauvelt 1, an edge test which has not yet found the Temblor sand. Top of the objective sand is expected around 8400 feet. The last casing cemented in this well was the record string of 13⅜-inch landed at 6763 feet.

Petroleum Securities Company has not found the Temblor zone in Burbank 1, a Middle Dome test which is being cored in hard brown shale at 6960 feet. The outcome of this test will largely determine the possibilities of the Middle Dome, which should not be productive over more than 3000 acres.

Rapid completion of several wells during the past month has sent production upward to a higher total than the field allowable of 60,000 barrels. The average initial production of the last six wells has been smaller than expected, but large enough to insure an enormous potential for the field. The edge wells have had a higher average initial yield than the inside wells, but the ideal gas-oil ratios may be largely responsible for the large production. The inside wells are producing much more gas than desired, but in the long run this early surplus may prove to point to a slower decline than where the quantity of gas is so limited. The absence of failures inside the field gives the North Dome an unbroken appearance and a producing acreage far in excess of the 13,000-acre minimum is possible. Completion of several edge tests should help to determine the probable extent of the North Dome.

Few new locations are being made and this is taken as an indication that field development will not run wild. Many wells have been drilled to the top of the Temblor formation and shut down. It would be an easy matter to resume operations in these wells and complete them quickly. This will not be done, except offsets.

The great gas waste of the early completions is worrying operators, but they are reluctant to kill these wells until new oil is in sight. Kettleman North Dome Association is rigging to kill Elliott 1, the discovery well, which has produced steadily since October, 1928. Although a very expensive test, this well has paid for itself many times. The association's Continental No. 1-12P, will also be killed in the near future. This well is producing 1650 barrels of 61.1 gravity oil and nearly 75,000,000 cubic feet of gas from the top of the Temblor formation. Practically all of the zone from which the well is now producing will be shut off and more formation opened.

Playa del Rey Production To Be Further Curtailed

Los Angeles.—The Playa del Rey field, which was developed more or less under protest from outside operators, certainly offers no further threat in the matter of new production, but the field decline fom the peak has been much slower than in many Los Angeles basin townlot districts. After falling just short of a peak of 50,000 barrels, production dropped slowly to around 30,000 barrels. This figure was maintained for several months, but developments of the past week point to a further curtailment to obtain the full posted price for the correct allotment.

Union Oil Company failed to make a satisfactory producer of Vidor 1, an outpost test to the southeast, and has shut in the well at 5991 feet. Swabbing developed an unsteady flow of oil. Active tests now total only eight, of which all will be completed in the deep zone.

Nearly 50 receivers have been appointed to take over holdings in the field. Most of the companies in trouble have one or two wells, but three or four larger companies have experienced trouble as well.

Los Angeles.—Continental Oil Company has placed McGrath-Selover 24 on the pump, but with a production of only 125 barrels this 9054-foot Seal Beach well can not be considered a commercial producer. If a successful completion, this well would establish a new record. Swabbing failed to make the well flow and the pumping experiment was not considered altogether successful. The fluid showed a cut of 20 per cent and the pressure was low. A string of 6⅝-inch casing was landed at 8122 feet, but the hole was not cleaned out to bottom for the first test. Continental Oil Company has led the way in deep development in this field and reached 7000 feet first when such a depth was considered a real achievement.

▼ NEW MEXICO - ROCKY MOUNTAIN AREA ▼

Committee Seeks Continuation Of Hobbs Proration Agreement

Dallas, Texas.—Continuation of proration enforcement in the Hobbs field, New Mexico, received the endorsement of all but one of the operating companies during a meeting of the proration committee here June 17. The current plan of proration expires July 10, and all companies have signed up to renew the plan for another six-month period, except Amerada Petroleum Corporation, this concern has agreed to sign, with a rider giving it the privilege of withdrawing from proration upon 30 days written notice, but the proration advisory committee is desirous of submitting an approved plan, with no exceptions, when the matter is presented to officials of New Mexico for final approval. The protesting company surrendered a 7500-barrel daily delivery crude contract when proration was adopted in the field last July. E. G. Allen, district manager of production for Shell Petroleum Comporation, is chairman of the proration advisory committee for the field.

Commercial Oil Production on Balsley Structure Indicated

Salt Lake City, Utah.—Additional indications of commercial production were reported by Utah Southern Oil Company last week when its Balsley 1, on the Salt Valley structure, in Grand County, Southeastern Utah, produced 300 barrels of oil by bailing in a 2½-day test. The bailing lowered the oil standing in the hole from 3400 feet to 2300 feet, and after the head was off a production of 15 barrels per day was gauged. Oil is light green in color and has a paraffin base; it tests 37 degrees gravity. The objective Ordovician sand has not been reached.

Although much time and money have been spent in the past by major operators in Utah in an attempt to develop commercial production, failure has heretofore always greeted the attempt. The structure now being tested is known locally as Salt Valley dome; it is about 12 miles north of the town of Moab.

Osage, Wyo.—Another westward extension, this time somewhat to the south of the recently completed big producers in the Osage field, was proved last week when Wy-Tex Oil Company completed its test at 1680-91 feet for an initial natural production of 100 barrels. To the northwest of the big wells West Osage Oil Company completed a well which swabbed 20 barrels in 20 hours from sand at 2067-77 feet. The Osage field is in Weston County, Eastern Wyoming, and it produces a very high grade crude oil which commands a posted field price from Montana refineries of 98 cents per barrel.

Riverton, Wyo.—Producers & Refiners Corporation is now plugging back to the Morrison sand in its deep test on the Sand Draw structure, Fremont County, Wyoming. The well had a huge gas production in this formation and although it was not tested it gave evidence of being the largest gasser ever drilled in the Sand Draw field, famous for its gas wells. Total depth is 5251 feet.

Midwest Refining Starts Core Tests of Beebe Draw Structure

Fort Morgan, Colo.—Midwest Refining Company has started core drilling the Beebe Draw structure, on which it holds a block of 10,480 acres, for sub-surface geology to determine location of a deep test to be started by October 1. The structure is southeast of the city of Fort Morgan. Other acreage adjoining is held by Empire Gas & Fuel Company, Producers & Refiners Corporation, Continental Oil Company, Phillips Petroleum Company, Ohio Oil Company, The Texas Company, Indian Territory Illuminating Oil Company and others.

Work of core drilling is being done by men who have until recently been employed by Midwest Refining Company in its geological and land departments. The company was forced to curtail personnel in these departments, and so offered its men the chance of doing the core drilling at Beebe Draw. For the reason that the work is being done by trained geologists and technical men, it is being said that the structure will be the most expertly core drilled one in the history of the industry.

Myers to Drill Test on North Fort Morgan Dome

Denver, Colo.—W. A. Myers is to drill a test 3½ miles northwest of Fort Morgan on the North Fort Morgan dome, Section 14-4n-58, about 18 miles southeast of the Greasewood dome discovery well. It is about 18 miles northwest of Indian Territory Illuminating Oil Company's test on the Fort Morgan structure. Associated with Myers will be Art Olson, president of Olson Drilling Company; H. Leslie Parker, geologist-discoverer of the Big Muddy field and of the Midway and Geary domes in Wyoming, and several Denver and Oklahoma men.

Casper, Wyo.—Midwest Refining Company is drilling plug after having re-cemented its Midway Dome well to overcome cave and bottom hole water. Well is standing at 5935 feet in the Muddy sand. Production in this horizon is to be tested again, water having come in on the first gauge.

Colorado Springs, Colo.—The contract held by Arthur K. Lee to furnish Colorado Springs with natural gas has been assigned by him to Colorado Interstate Gas Company, subsidiary to City Service Company, which furnishes Denver and Cheyenne with gas from the Amarillo, Texas, gas fields. Lee said he was unable to finance a proposed pipe line to Lamar, which would have tapped the supply lines from the rich gas area in the vicinity of Hugoton, Kansas. The Colorado company will start construction immediately on a lateral from its main line six miles east of the city limits.

Basin, Wyo.—Slagle and Zinn of Billings, Montana, and others have started a new test in the Torchlight field, near here, in Big Horn County. Torchlight is an old shallow field which has been producing for years.

Bluff, Utah.—A wildcat well being drilled by Nevills et al on the Medicine Hat structure, 25 miles west of here, on the Navajo Indian reservation, Southeastern Utah, reports a good showing of free oil at 263 feet.

Oklahoma--Kansas Field Notes

FLOYD SWINDELL, ***Staff Representative, Tulsa, Oklahoma***

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Increased Demand Indicated For Oklahoma City Field Oil

Oklahoma City.—Indications of increased demand for Oklahoma City crude along with a slightly optimistic turn among oil men of the Mid-Continent are being interpreted as a possible forerunner of increases in the posted price of oil. Purchasing companies took 1,272,625 barrels of oil from the pool and from storage during the week ending Saturday, June 20, or an average of 181,802 barrels daily. Production for the week averaged 161,000 barrels daily, showing a withdrawal from storage of approximately 20,000 barrels daily. On the last day of that period there were 795 completed wells. Eighty-six sand wells produced 149,818 barrels and five Arbuckle lime wells, 1274 barrels. The first abandonment of a producing well was also made last week when Continental Oil Company plugged its Sudik 2, NE NW NE Section 6-10n-2w, in the southern part of the pool. The Wilcox sand on this part of the structure was erratic in that it yielded several gushers offsetting wells that were almost dry. The Sudik 1 well, a west offset to Sudik 2, had an initial production of 10,790 barrels. Sudik 3, the east offset, gauged 8810 barrels of oil and 40,000,000 cubic feet in 8½ hours. The Sudik 2, a 10-acre location lying directly between the two, was drilled to 6744 feet without encountering commercial production. This was more than 100 feet below the point at which Wilcox production had been obtained in offset wells. Further work and it was made into a small producer but it has never been of commercial size.

Four completions added 166,000 barrels to the potential and one well in the gusher area was shut in without a gauge. T. B. Slick Estate's Wespaco 2, S½ NW SW SE Section 34-12n-3w, set 6⅝-inch casing at 6237 feet, six feet above the top of the Wilcox sand, and produced 7292 barrels in four hours along with gas at the rate of 48,000,000 cubic feet. Total depth is 6529 feet. The same operator's Burroughs 1, SW NE NW Section 10-11n-3w, topped the Wilcox at 6370 feet and drilled to a total depth of 6541 feet. Initial four-hour gauge was 6594 barrels along with gas at the rate of 34,000,000 cubic feet. The company's Classen-Edwards 5, logged Wilcox sand from 6335 to 6534 feet and gauged 9634 barrels in 5½ hours. Gas gauged 39,000,000 cubic feet. Denver Producing and Refining Company's King 1, NE SW NW Section 3-11n-3w, topped the Wilcox at 6355 feet and produced 4251 barrels in 2½ hours, total depth is 6515 feet. The initial gauge was taken through a 3¾-inch choke under 200 pounds back pressure. Champlin Oil & Refining Company, drilled its Eckroat 1, SW NE SE NW Section 10-11n-3w, to a total depth of 6510 feet, bailed and shut in without gauging. It is understood that four of this company's wells are shut in awaiting the posting of a $200,000 bond which was specified by the court in a recent decision which allowed the company to produce in violation of proration regulations. The bond is required to take care of claims that may arise through drainage of offset wells.

Rajah Incorporated's Davis 1, CN½ SW NW NW Section 2-11n-3w, was the outstanding performer of the week when it blew 12 stands of drill pipe from the hole while drilling in the sand. It was successfully shut in within a few minutes. Shortly thereafter Oils Incorporated, owning two of the offset wells, opened them for production and found both flowing mud along with the oil. Continued pumping into the Davis 1 failed to restore circulation and operators had pumped in seven tons of cotton seed hulls when the last report came in. This is the second instance of wells losing circulation to offsets in Section 2.

Pittsburgh County Test Near Canadian, Oklahoma, Promising

Tulsa.—J. L. Pattison is drilling below 5723 feet in his McDuff 1, SW NW SE Section 32-9n-16e, just south of the Canadian River and near the town of Canadian in northern Pittsburg County. This is the reward of almost four years of intermittent drilling.

Pattison started his first test in 1925 and lost the hole through mechanical difficulties late that year. The present test was commenced in 1927. A white lime topped at 5268 feet has been tentatively correlated as Viola. Gas estimated at 15,000,000 feet was found in the Cromwell sand at approximately 4500 feet. So far no oil has been found in commercial quantities in Pittsburgh County.

This has been explained by the carbon ratio theory and some suggestion has been made that the finding of gas only may be due to the non-marine character of the Pennsylvanian rocks. Assuming that the lime topped at 5268 feet is Viola lime the drill should now be either in the lower part of that formation or in older beds of Ordovician age.

Development in Seminole District Shows Decline

Seminole, Oklahoma.—Development in the Seminole district appears to have hit bottom with only three drilling wells and three locations which probably will not commence for some time. Carr City, Bowlegs, and East Earlsboro have one drilling well each, Earlsboro has two locations and East Earlsboro one location.

The most interesting development of the past week is showing of Prairie Oil & Gas Company's Sager 1, SEc SW Section 8-9n-6e, slightly over a mile east of the East Earlsboro pool. Top of the Wilcox sand was encountered at 4227 feet and the well swabbed 80 barrels the first 15 hours having penetrated only a few inches of sand. It is a west offset to Pierce & Turman Oil Company's Phillips 1, which had top of the Viola lime at 4136 feet and Wilcox sand at 4240 feet, making it minus 3202 feet on top of the Viola and minus 3306 feet on top of the Wilcox. Datum on the Sager 1 is minus 3226 feet on the Viola and 3298 feet on the Wilcox. Comparison of the two wells shows the former to be 24 feet higher on the Viola and eight feet lower on the Wilcox, a confusing situation in the question of deter-

mining whether the new production is an extension to the East Earlsboro pool or on a separate structure. Reports on top of the Viola indicated the latter but if the Wilcox sand tops are correct the other interpretation is more likely to be correct.

Amerada Petroleum Corporation's L. Tiger 1, NEc NW SE Section 3-8n-5e, encountered Wilcox sand from 4194 to 4210 feet from which it swabbed 330 barrels in nine hours. This well made 180 barrels last week flowing from the Hunton lime through a bradenhead. Empire Oil & Refining Company's Brown 3, NWc NE SE Section 3-8n-5e, had Wilcox sand from 4190 to 4205 feet. It swabbed 595 barrels in 24 hours from the Wilcox and on the following day swabbed 420 barrels in 12 hours from that formation and flowed 130 barrels from the Hunton lime. The Wilcox was shot with 60 quarts and the well was flowing from the Hunton while cleaning out.

100,000-Barrel Potential For Ritz-Decker-Garrett

Wichita, Kansas.—With several tests ready to come on the production list within the next week and four wells added during the past week, potential of the Ritz-Decker-Garrett area is expected to exceed 100,000 barrels daily. McPherson Oil and Gas Development and Shell Petroleum Corporation topped the chat at 2900 feet in their Giffin 2, CSW NW Section 14-19s-2w, on the west flank of the Decker structure. At 2951 feet it was estimated at 1000 barrels of oil and 6,000,000 cubic feet of gas. This well is a direct southwest offset to the same operator's Giffin 1, which was a 10,000,000-foot gasser but encountered no oil. Olson Drilling Company and Shell Petroleum Corporation's Johnson 2, SEc SW NE Section 36-19s-2w, set eight-inch casing on top of the Viola at 3585 feet and produced 867 barrels of oil in 12 hours after drilling plug. Vernon Oil and Gas Company deepened its Drum 1, NEc Section 35-19s-2w, and increased the flow of oil to 440 barrels but encountered 15 barrels of water. Total depth is now 2970 feet in chat.

The past two weeks have been exceedingly poor ones for the Eastborough pool in eastern Sedgwick County. During the week ending June 13 the pool was further defined on the north by two dry holes and the past week saw the completion of two small wells inside the proven area. Derby Oil Company's Eastborough Estates 5, NE Section 19-27s-2e, produced 165 barrels of oil and 170 barrels of water from chat at 2962 to 2971 feet. The same operator's Eastborough Estates 6, NE Section 19-27s-2e, had chat from 2988 to 2989 feet and gauged 150 barrels of oil along with 75 barrels of water. Both are in the northeastern part of the pool.

Liggett et al encountered a 45-barrel show of oil at 3184 to 3186 feet in their Whitson 1, NW SW Section 16-11s-15w, northwestern Russell County wildcat. At the time of last report it was drilling below 3220 feet with no increase in oil.

Shell Petroleum Corporation swabbed 215 barrels of oil in six hours from its Fisher 7, NW SE Section 15-26s-2e, old well drilled deeper in the Greenwich pool in Sedgwick County. New production is coming from Viola lime at 3194 to 3200 feet.

Youker et al's Riffel 3, NWc Section 11-17s-4e, extended production in the Lost Springs pool when it made 50 barrels on the swab from chat logged at 2311 to 2396 feet. It is doubtful whether this proves the area between the well and the pool, a distance of about 1½ miles, but it gives indication of the existence of favorable structure over the area.

Complete 1200-Barrel Well In Tatums Pool During Week

Ardmore, Oklahoma.—The Tatums pool came in on the production list with a nice well last week when Carter Oil Company completed its Paul Robb 2, SW SW NW Section 19-1s-2w. Flowing natural during the first 16 hours and swabbing the remainder of the 24-hour period it produced 1210 barrels from sands logged at 1768 to 1948 feet, the total depth. K. D. Oil Company and Frank Gouin are running casing to cement in their J. W. Burton 1 CSW NW Section 30-1s-2w, three-eighths of a mile south of production. Broken sand was logged at 2178 to 2191 feet and drilling was discontinued at 2214 feet in solid oil sand topped at 2191 feet. Magnolia Petroleum Company is shut down waiting on cement to set in its Wirt Franklin 1, SW NW NE Section 15-1s-3w, three-fourths of a mile northwest of production. Casing was set at 2490 feet after coring broken oil sand from 2505 to 2541 feet. Commercial production at this location would open a considerable area for exploitation but it is not calculated to bring about an extensive campaign under the present conditions regardless of the outcome of the well. Trevelyn Oil Company has plugged and abandoned its D. W. Ratliff 1, NE NW SW Section 19-1s-2w, one location south and one east of Carter's, Paul Robb 2. Total depth was 1900 feet in black shale without having encountered the producing sand.

Mid-Kansas Oil & Gas Company and Ramsey Petroleum Corporation are shut down repairing derrick at their Preston-Culp 6, NW NE NE Section 6-5n-9w, in the western portion of the Cement pool in Caddo County. Total depth is 8110 feet in shale. This is the deepest test in the state and is now within less than five hundred feet of the depth record for the Mid-Continent area. Magnolia Petroleum Company's Estes 2 SE SW NE Section 10-5n-9w, in the central portion of the pool, is still shut down with total depth at 5193 feet. The formation is showing water at this depth.

Monarch Petroleum Corporation is circulating oil in an effort to recover lost tools in its Gregg 1, SW SW SW Section 36-3s-4w, Jefferson County wildcat test about one mile west of the old Healdton pool. Total depth is 3700 feet.

Activity in the Duncan district of Stephens County dropped to one drilling well last week when Paul Turner et al announced abandonment of their Will Andrews 1, NW SW SW Section 5-2s-7w, wildcat test about six miles south of Duncan. Total depth is 2864 feet in hard lime. H. J. Brown and K. D. Drilling Company's Hightower 1 SW SE NE Section 15-3s-5w, in the old Loco gas field is the only drilling well in the county. It is being drilled below 650 feet and should encounter the gas sand around 700 feet and the known oil sands not lower than 1600 feet. Crane and Rankin are still shut down at 3265 feet at their Adkins 1, NE NE SE Section 14-1n-9w, a wildcat test just north of the Oil City pool.

D. B. Malernee et al are drilling below 4550 feet in their Wacker 1, NE NE SW Section 24-2n-2w, Garvin County wildcat about two miles west of the town of Elmore. This test is in an interesting location about nine miles northwest of the Arbuckle uplift and in an area where several wells have been drilled in the theory that sands on the south side of the uplift might be also found on the north side or that the northern and central Oklahoma section might be encountered. Surface beds belong to the Wichita-Clear Fork group of Permian age.

Batson, Starritt, and Autry are drilling below 9800 feet in their Dr. Autry 2, SE NE Section 27-6s-2e, Love County wildcat about nine miles northeast of Marietta.

North and West Texas Field Notes

H. H. KING, ***Staff Representative, Fort Worth, Texas***

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North Texas and Panhandle Crudes Commanding Premium

Amarillo, Texas.—Offers of 10-cent premiums above the posted price of major companies by local independent refineries has climaxed a sudden upturn in the crude market situation in the Texas Panhandle, which had shared responsibility with North Texas in helping to cause reductions in Mid-Continent crude prices prior to the entrance of East Texas upon the scene with a market breaking production. Panhandle crude is again popular with regular purchasers, with the record low price postings probably influencing the demand to some extent, and authorization was made at the close of the past week to increase the allowable output of the district from 40,000 to 47,979 barrels daily retroactive to 7 a. m. June 16.

Re-entrance of Philtex Oil Company, crude buying subsidiary of Phillips Petroleum Company, as a buyer of crude in the Panhandle after having been inactive since November 1, 1930, resulted in the latter placing a demand for 5000 barrels of additional oil daily to supply its Borger refinery. A meeting of the proration advisory committee was held in Amarillo June 16 to act on this request. The Texas Company had previously announced desire to take on 1000 barrels more oil daily from the district, while similar requests were made by local refiners. An unsuccessful attempt was made to induce Humble Oil & Refining Company, Magnolia Petroleum Company and others to surrender sufficient outside oil runs to take care of this increased demand.

Some protests were registered at the meeting by independent operators against the raising of the proration allowance of the district until some adjustment is made in the price schedule, which is now below the average cost of operating pumping wells. At that time the top price in Gray County was 30 cents and 27 cents per barrel in the Carson-Hutchinson area for oil testing 40 gravity and above, but effective June 20 Magnolia Petroleum Company began paying 30 cents per barrel for all grades of Gray County crude, and 26 cents per barrel for the latter area. This new flat schedule amounts to a minor price increase.

No action was taken by the proration advisory committee on the demand for an increase in allowable production at the Amarillo meeting in order to survey the situation and ascertain if other producers and purchasers would absorb proportionately their respective increased allowances in raising the output of the district to provide for Philtex Oil Company's demands. Instructions were issued to Umpire H. J. Corcoran late last week to release a proration sheet giving the district a new allowable of 47,979 barrels daily after it was found that companies and operators unable to absorb the increase could readily switch such connections to those seeking more oil.

Another increase for the district may be requested by purchasers effective July 1, as it is reported that Phillips Petroleum Company desires to take on an additional 5000 barrels beginning on that date.

Due to proration injunction suits by Danciger Oil & Refining Company and Sunray Oil Company, both Panhandle operators, still pending in the Civil Courts of Appeals, the Panhandle district has consistently produced greatly in excess of its authorized quota, and during the past week averaged 57,965 barrels, or 17,965 barrels in excess of the proration allowance.

Danciger Oil & Refining Company has controlling interest in Petroleum Refractioning Company, which is operating a 5000-barrel refinery at Pampa, and is no longer able to produce sufficient crude to supply the plant, so premiums are now being offered to obtain crude from nearby properties. Macmillan Petroleum Corporation, which has a 6000-barrel refinery at Borger, is also included in the group of Panhandle district plant owners that are offering and paying 10 cents per barrel, more or less, above the posted price. This premium is equivalent to the price being received by many East Texas operators for their production at the well. Freight rates prevent the moving of East Texas crude to the Panhandle plants. About 50 per cent of the current production of the Panhandle is now being refined locally, and most of same is sold in surrounding trade territory, thereby eliminating the district as a factor in the general market situation.

Pass Up Producer to Comply With Drilling Obligations

Wichita Falls, Texas.—Passing up of a 1000-barrel flowing well at 2218-41 feet has been authorized by officials of Deep Oil Development Company on its second deep producer in west central Archer County in order to comply to a 5500-foot drilling obligation on the lease. This company's L. F. Wilson 1, located in the southwest corner of Section 76, A. T. N. L. Survey, was intended for a deep test when it unexpectedly opened a new oil horizon for the county last March at 2216-24 feet, and L. F. Wilson 1, lease 5-A, showed for an even better producer when given drill stem test early last week. The latter is 660 feet due west of the discovery well, which is pinched to 300 barrels daily in accordance with proration restrictions. The second well flowed 63 barrels oil on 30-minute test.

Bridwell Oil Company's L. F. Wilson 1, located in Lot No. 2, Section 107, has apparently missed the productive pay, as it was drilling below 2405 feet last week after passing through broken sand without showing oil at 2304-33 feet.

San Angelo, Texas.—Temporary completion has been made by Gulf Production Company and Cranfill Brothers Oil Company's wildcat oil producer on the J. B. Tubb ranch in western Crane County, and work is now underway on a short pipe line that will permit the marketing of the oil. This well has been flowing 100 barrels 39 gravity oil daily through a bridge formed at 4118 feet after being shot with 100 quarts in lower section of the big lime horizon at 4276-4318 feet, with a total depth of 5336 feet. Efforts to remove the bridge after trying for the past week have been abandoned because of danger of junking the hole. Gulf Pipe Line Company is laying 3500 feet of two-inch pipe to connect the well with Shell Pipe Line Company's nearby trunk line system.

East Central Texas Field Notes

H. H. KING, *Staff Representative, Fort Worth, Texas*

Fifteen Companies Doing 40 Per Cent of East Texas Work

Tyler, Texas.—Fifteen major and independent companies were credited with carrying on 40 per cent of the current field activity in East Texas at the start of the week. This district extends into Gregg, Rusk, Smith and Upshur Counties, and has a total of 640 operations, exclusive of completed producers and dry holes. The 15 companies account for 253 of the total operations, and more than 50 per cent of the locations.

Humble Oil & Refining Company occupies a leading position in volume of field work with a total of 61 operations, including 28 active tests, while Gulf Production Company holds second place with 35 operations. Magnolia Petroleum Company has recently expanded its program, and started the current week off with 33 operations, and Sun Oil Company has likewise enlarged its drilling program in recent weeks. The Texas Company is somewhat of a new-comer, but is now the seventh most active company. Tidal Oil Company, Mid-Kansas Oil & Gas Company, Sinclair Oil & Gas Company, Shell Petroleum Corporation and Arkansas Fuel Oil Company have materially decreased their operations in the district. The list of active companies follows:

Company	Loc.	Derricks & Rigs	Active Tests	Total
Humble Oil & Refining Company	15	18	28	61
Gulf Production Company	3	17	15	35
Magnolia Petroleum Company	6	11	16	33
Sun Oil Company	1	4	13	18
Shell Petroleum Corporation	.	1	16	17
Mid-Kansas Oil & Gas Company	1	5	10	16
The Texas Company	2	4	7	13
Yount-Lee Oil Company	1	4	6	11
Houston Oil Company et al	.	1	7	8
Sinclair Oil & Gas Company	1	1	6	8
Stanolind Oil & Gas Company	1	3	4	8
Stanolind-Simms Oil Company	1	1	4	6
East Texas Refining Company	.	2	5	7
Tidal Oil Company	.	1	4	5
Total	33	74	146	253
Miscellaneous companies	24	155	208	387
Total for four counties	57	229	354	640

East Texas Production at Peak Week Ending June 17

Tyler, Texas.—Maintaining a daily average of 371,360 barrels from 871 wells during the week ending 7 a.m., June 17, East Texas established a new peak flow even though production restrictions were more generally observed than in the past. The gain of 42,325 barrels over the daily average of the previous week came from the Longview and Kilgore areas, while the Joiner section remained almost stationary in averaging 114,125 barrels daily from 350 flowing and pumping wells. The fact that more operators adhered to proration restrictions than the previous week was due largely to inability to market the oil at any price, while those that did have outlets proceeded to make the most of same.

Kilgore field rose to a new peak on production, with a daily average of 188,879 barrels from 379 wells, representing a gain of 20,850 barrels. The Longview area approached its former peak level in averaging 68,370 barrels daily during the past week from 142 wells, or an increase of nearly 50 per cent over the average for the previous week. Arkansas Fuel Oil Company contributed heavily to this big increase in the Longview field as result of the company having tired of ignoring proration violators on offset leases, and thrown most of its full interest wells partly open. Arkansas Fuel Oil Company was credited with producing about 40,000 barrels daily at the close of last week, with 25,000 barrels going out in direct trunk line, and about 15,000 barrels daily in tank cars, but restrictions were maintained on joint interest lease with the Yount-Lee Oil Company.

Humble Plans Six Inside Tests on Kilgore Lease

Tyler, Texas.—Starting of six inside locations on the Lou D. Crim 628-acre discovery lease of the Kilgore field has been authorized by Humble Oil & Refining Company to partially counteract extra rows of producing wells against the property line. Seven new locations were ordered drilled on this large lease, which has heretofore been developed mostly to the extent of taking care of direct offsets, and six of these tests are spotted in a row 1211 feet north of the south line of the tract. This new authorization gives the company 33 locations on the discovery lease, and all but 10 of same are now on production.

An important extension to the west side of the Rusk County portion of the Kilgore field became assured during the past week when E. L. Chapman et al's O. Russell 1, located in the most easterly northeast corner of 30-acre lease, J. English Survey, flowed on drill stem test at 3672-77 feet. Although this outpost test has a bottom hole depth of 3332 feet it did not show water on the preliminary test, and is expected to make a big producer when completed this week.

Overstepping of the productive area and decline of pressure on the oil and gas horizon offer a combination of circumstances that has afforded the Kilgore field a half dozen dead wells on the east side. Shell Petroleum Corporation's Abe Holt 1, located in the northwest corner of 68.84-acre lease, Daniel Clark Survey, Rusk County, proved to be a short lived flowing well after logging broken sand, shale and lime at 3622-3740 feet, resulting in an initial flow of 194 barrels. This well went dead June 16 after having yielded 266 barrels oil during the previous 24-hour period, and was off production at the close of the week. Sinclair Oil & Gas Company's Major Kennedy 1, Hy. Hobson Survey, a northwest offset to the above, has failed to show for a commercial producer after drilling broken formation at 3640-3760 feet. Louisiana-Texas Oil Corporation-C. H.

Lyons et al's M. Kennedy 1, an east offset to the latter, is credited with a potential of only 50 barrels per hour through tubing after having scored a big initial when completed middle April. E. B. Madden et al's M. Mayfield 1, an east offset to Magnolia Petroleum Company's 50-barrel pumper on Dick Wells 2, has not shown for a commercial producer after drilling to 3734 feet.

D. Harold Byrd and Jack Frost, Dallas operators, completed their first producer on the W. Smith 39-acre lease. J. S. Carruthers Survey, on June 19, flowing 412 barrels per hour through open tubing from regular sand at 3549-3591 feet, but have been unable to obtain pipe line connection or market relief. The farm on which this big producer is located is owned by a negro, who had extra cause to celebrate Emancipation Day.

Magnolia Petroleum Company has excepted only one producer in the Kilgore field in adhering to proration rules of the railroad commission, and this is a part interest well on the Brock 2½-acre lease, northeast corner of the R. W. Smith Survey, drilled by L. A. Warren & Slaughter. This well has been allowed to produce from 3000 to 3500 barrels daily during the past three weeks, and is offset by a proration violator. Shell Petroleum Corporation had several leases in the J. S. Carruthers Survey section of the Kilgore field partly open during the past week to balance up excess oil drainage caused by offset proration violators.

Production History of East Texas Field

Rusk, Gregg, Smith and Upshur Counties

Sabine River is taken as boundary between Longview and Kilgore districts, and the boundary between Kilgore and Joiner districts is a line extending due east from center of town of Overton.

	Joiner (Henderson)		Kilgore		Longview		Whole Field	
Week ending:	No. wells	Av. daily prod.	No. wells	Av. daily prod.	No. wells	Av. daily prod.	No. wells	Av. daily prod.
Nov. 12, 1930.	1	185	...	....	...	....	1	185
November 19 .	1	183	...	....	...	....	1	183
November 26 .	1	176	...	....	...	....	1	176
December 3 ..	1	184	...	....	...	....	1	184
December 10 .	2	212	...	....	...	....	2	212
December 17 .	4	1,579	...	....	...	....	4	1,579
December 24 .	4	317	...	....	...	....	4	317
December 31 .	4	300	...	....	...	....	4	300
January 7, 1931	5	501	...	....	...	....	5	501
January 14 ...	6	2,765	...	....	...	....	6	2,765
January 21 ...	6	4,650	...	....	...	....	6	4,650
January 28 ...	8	4,717	...	....	...	....	8	4,717
February 4 ...	10	7,204	...	....	1	158	11	7,362
February 11 ..	12	12,104	...	....	1	60	13	12,164
February 18 ..	17	18,606	1	179	1	5,721	19	24,506
February 25 ..	18	21,994	4	5,246	1	6,661	23	33,901
March 4	27	29,116	6	22,343	1	4,578	34	56,037
March 11	39	45,776	11	29,747	1	7,169	51	82,692
March 18	48	40,364	17	36,868	5	14,345	70	91,577
March 25	61	47,862	19	56,482	6	17,769	86	122,113
April 1	84	51,486	30	68,186	11	24,992	125	144,664
April 8	101	59,687	46	104,544	17	30,754	164	194,985
April 15	129	62,085	69	148,123	25	38,180	223	248,388
April 22	146	70,003	89	169,890	30	58,479	265	298,372
April 29	165	83,847	133	187,217	39	68,713	337	339,777
May 6	172	95,767	171	120,885	46	52,250	389	268,902
May 13	203	92,484	214	116,385	47	48,556	464	257,425
May 20	230	118,036	233	124,265	70	61,511	533	303,812
May 27	251	123,801	273	156,074	86	71,018	610	350,893
June 3	281	119,188	311	165,576	111	66,712	703	351,476
June 10	317	114,290	338	168,015	126	46,729	781	329,034
June 17	350	114,122	379	188,868	142	68,372	871	371,362

Tyler, Texas.—Entrance of Atlantic Pipe Line Company into the Gregg County section with an extensive gathering system is to result from preliminary surveys now being made by the company. It is reported that this company will install a combination 10-, eight- and six-inch gravity system to connect the various holdings of Atlantic Oil Producing Company, with a pump station and tank farm to be located down the Sabine River and on the east side of production.

Negotiations are now pending for the tieing in of this gathering system with one of the direct trunk lines in operation or building to the Gulf Coast and that the company may later elect to construct a 10-inch trunk line from East Texas to its tank farm and tanker terminals at Atreco near Beaumont. Final decision as to the trunk line largely rests with the outcome of proration enforcement in the district within the next 60 days, as Atlantic Oil Producing Company has accumulated full or part interest in about 1000 acres of proven leases and has not checked purchases.

East Texas Operations

Expansion of field work in Rusk and Gregg Counties since the area reached important proportions is illustrated by the table below, showing operations on given dates:

Date	Locations	Derricks and Rigs	Active Tests	Totals
February 9	10	34	34	83
February 16	21	48	54	123
February 23	23	71	70	164
March 2	22	97	84	203
March 9	21	129	104	254
March 16	21	128	136	285
March 23	27	136	194	357
March 30	22	141	222	385
April 6	24	134	231	389
April 13	40	154	223	417
April 20	49	155	231	435
April 27	56	135	259	450
May 4	59	143	240	442
May 11	54	158	246	458
May 18	54	161	269	483
May 25	59	180	296	535
June 1	79	190	312	581
June 8	55	204	329	588
June 15	67	187	360	614
June 22	54	261	321	636

Get Oil and Gas Show in Shelby County, Texas, Test

Shreveport, La.—I. M. Bradley and associates who on Thursday, June 18, encountered six feet of sand from 3044 to 3050 feet, in J. J. Asberry 1, G. W. Mitchell Survey, Shelby County, East Texas, eight miles north of Center, which the owners said showed both oil and gas, the sand being under two feet of cap rock, drilled three feet farther into the sand late last week and after reaming down set a testing tool, the operation resulting in a show of 100 feet of salt water with a slight show of oil. It is now unlikely that casing will be set at this level. The sand had been tentatively identified as Woodbine.

The J. J. Asberry 1 reached base of Pecan Gap at 2292 feet and base of the Austin chalk at 2877 feet.

EAST TEXAS HIGHLIGHTS

By H. H. KING
Staff Representative

Humble Plans Refinery

Humble Oil & Refining Company is negotiating for a site near the Gladewater section of the Longview field to erect a skimming plant that will be supplied with crude from the company's nearby leases. This company is a large distributor of refined products in Texas and is forced into obtaining its supplies locally in order to compete with comparatively low retail gasoline prices now being offered by independently owned plants.

Fuel Contract Delays Refinery

All-State Refining Company of Thrall, Texas, is to erect a 3000-barrel capacity skimming plant on the IGN Railroad near Overton if a fuel contract now being negotiated for is obtained. Fuel oil is a big sales problem for East Texas refineries because of the comparatively high cold test. The above concern is operating a 2500-barrel capacity plant at Thrall. Geo. P. Mann is superintendent.

Change Refinery Location

Change in location of Central Refining Company's 10,000-barrel daily capacity skimming plant from Overton to Friars Switch, or Poindexter, was made early last week in order to permit East Texas Refining Company's Joiner field pipe line system to gather and deliver the crude. This company has contracted for 7500 barrels of crude daily for two years to be delivered by John W. Hooser et al producers in the Joiner field, and is now negotiating for crude contracts to be in effect for five years. The refinery is scheduled to be in operation before close of July, and sales offices will be located in the Allen building, Dallas. The company obtained a 30-acre site on the south side of the I-GN Railroad and opposite the Friars Switch topping plant of the East Texas Refining Company, and will probably erect a 40-car capacity tank car rack.

Securing Market Difficult

Lining up of a definite market for large quantities crude over a long period after delivery is made from East Texas to the Texas Gulf Coast, has proven to be a greater task than expected by the group that is sponsoring a 12-inch pipe line transportation unit. Shamrock Oil & Gas Company of Pittsburgh and Amarillo is the principal backer of this project that would function strictly as a carrier for six or eight large independent companies with holdings in East Texas.

Texas Independent Pipe Line Company has been chartered in Delaware to build and operate the line, which would require about 200 miles of pipe in building to the Houston ship channel, where tentative arrangements have been made to use the storage tanks and tanker loading facilities of American Petroleum Company at Norsworthy. Some East Texas producing concerns that have agreed to utilize space in the line have private outlets for all crude shipped, but a hitch has developed in providing relief for the other shippers, even though a crude marketing organization is included in the program.

Gasoline Production Increased

Gasoline production in East Texas has been stepped up to about 300,000 gallons daily, and is likely to be boosted beyond 500,000 gallons daily when operating plants and those under construction are placed on full capacity operations. During the week ending 7 a. m. June 17 the local plants were delivered an average of 25,370 barrels of crude daily, or about one-fourth the amount of crude moved out in tank cars daily during the same period. Tank car shipments of crude were estimated at 105,100 barrels daily, and crude movement by trunk lines averaged 250,360 barrels daily.

Atlantic Buys Production

Atlantic Oil Producing Company has come in for its first production in the East Texas district by paying $85,000, including $35,000 cash and balance from oil runs, for Skipper-Tippett & Hall's J. C. McKinley 33-acre lease in the D. Sanches survey, Longview field. This lease has one completed well that officially gauged 2064 barrels daily based on umpire test through 11/16-inch choke on 2½-inch tubing. The above purchaser has been the most aggressive buyer of East Texas proven properties in recent weeks, and has not withdrawn from the market on attractive offers. Atlantic Oil Producing Company is moving East Texas crude to Gulf Coast via Magnolia Pipe Line Company's system on common carrier basis in addition to acceptances on purchases in tank cars.

Commission Withholds Cranfill Plan Approval; Hearing June 29

(*Continued from page 22*)

a daily production of 250,000 barrels, and stated that the committee believed that this amount could be readily absorbed by the market.

He pointed out further that while no definite plans had been formulated for securing outlet for 160 wells presentlly without the same, the committee had been assured by most of the integrated companies operating in the region, that each would take care of some of these wells.

Former Governor Moody, representing some of the companies in a legal capacity, explained that the major companies and major pipe line companies would not come into the agreement without the official sanction of the railroad commission, as they feared they might be prosecuted for violation of the law on agreements in restraint of trade, and that they were as yet uncertain as to what action the commission would take.

J. R. Stuckey, speaking in behalf of the land owners of the region, assured the commission that fully 90 per cent of the landowners were heartily in favor of the plan, and would be perfectly willing to obey the order were it issued. He added that in his opinion, it would be up to the pipe line companies to enforce the order, after it had been accepted by the operators.

A letter written by W. S. Farrish, president Humble Oil & Refining Company, was read, in which the writer told of contracts with The Texas Company, Atlas Pipe Line Company, Magnolia Petroleum Company, Stanolind Oil & Gas Company, and Houston Oil Company whereby he had had promises of full co-operation under the plan if it had the sanction of the railroad commission.

The original plan was developed June 18 at a conference of East Texas oil men held in Longview. Since then a few alterations have been made. The revised plan as it was presented to the commission, follows:

Plan as Revised

"Whereas it now appears that the three large oil fields known as the Lathrop field, the Kilgore field and the Joiner field, are in fact one connected oil field in the same sands and operating conditions in any one of them affect the adjacent part of the other, and is now known as the East Texas field.

"And whereas it now appears as the field is now being operated that enormous quantities of gas are being wasted in the production of many wells as is immediately evident from the very large gas flares that are burning the gas from many individual wells, and whereas the waste of this gas continued over any length of time will leave the oil

inert in the sand and make it impossible to ever recover such oil.

"And whereas it now appears that many individual wells are being operated at excessive rates of flow (as much as 8,000 to 10,000 barrels is being taken from single wells in many cases in these fields), and because it is common knowledge that such excessive rates of flow will cause water to rise above the general water level and appear in such wells and from such wells spread to contaminate other wells and thereby trap off large amounts of oil which will not be available to the wells which have been drilled or will be drilled in the field and thereby causing an excessive and unnecessary waste of the natural resources in this field.

"And whereas it now appears that this enormous East Texas oil field represents such a substantial part of the oil and gas resources of the state and therefore failure to use proper conservation methods in producing this oil will cause a tremendous waste of the state's natural resources.

"And whereas it is necessary in order to enforce proper rules of conservation on one operator, to enforce the same rules on his neighbor and to enforce the same rules on his neighbor's neighbor, it is therefore imperative that uniform rules for the production of oil from all wells in the East Texas field be adopted and immediately enforced.

"And whereas at a meeting of the oil operators, land and royalty owners and business men of East Texas on June 15th, 1931, at Tyler, Texas, a plan for the observation of conservation in this field was adopted and a committee appointed known as the Arbitration Committee was instructed to work out details of the plan for recommendation to the Railroad Commission for its consideration.

"Now therefore we, the Committee, after consultation with as many operators in the field as possible, and the present Advisory Committee of the field, recommend that the following order be entered and made effective as soon as possible.

"Rule 1. The fields known as Lathrop, Kilgore and Joiner fields, having been shown to be practically one geological area, shall be treated as one field, and known as the East Texas field.

"Rule 2. Until further order of the Railroad Commission, oil produced in the East Texas field shall be upon the following basis:

"(a) For the purpose of this plan, the East Texas field, and all leases in said field, shall be considered as composed of units of twenty (20) acres, and each such unit shall be permitted to produce three hundred (300) barrels per day of twenty-four (24) hours; provided, however, that all wells in said field, completed and producing on the effective date of this order, shall be permitted a production of three hundred (300) barrels per day per well, irrespective of the size of the tract upon which such well is located.

"(b) Provided, however, that where any such tract is of less than twenty (20) acres in area, not more than six hundred (600) barrels per day shall be produced therefrom, irrespective of the number of wells.

"(c) And provided, however, that any operator in said field shall have the right to produce from a single tract under common fee ownership, by well or wells drilled thereon, the full quantity of oil to which his number of units may entitle him. However, not more than five (5) units of twenty (20) acres each may be allocated to any one well.

"If, however, the lease of such operator shall be offset by a well, or wells, on a smaller unit, or units, such operator shall not be permitted to produce from his offset well a quantity in excess of three hundred (300) barrels per day for each such offset well, and the remainder of the quantity to which his units entitle him shall be made up from wells drilled within the body of said lease and remote from the boundary line of said lease.

"Rule 3. (a) No sub-division of any lease so as to create tracts of less than twenty (20) acres, made after the effective date of this order, and no assignment of less than twenty (20) acres made after said effective date of this order, shall be considered in determining the allowable production hereunder, but the allowable production allocated to such lease shall be upon the basis of three hundred (300) barrels per twenty (20) acres in accordance with the subdivision which existed prior to the effective date of this order.

"(b) If, on the effective date of this order, any lease was owned by more than one person in undivided interests, and such ownership is shown by an instrument of record before said date, and subsequent to said date there has been, or shall be, a partition in kind to the respective owners, the provisions of sub-paragraph (a) of this Rule 3 shall not apply.

"Rule 4. The commission shall constitute a field representative, or umpire, who shall have charge of the administration and enforcement of these rules in said field. Producers in said field are authorized to constitute an advisory committee composed of one representative from each such producer and each royalty owner for the purpose of working in cooperation with the Railroad Commission and its umpire in carrying out the details of the administering of these rules. Such committee may constitute a smaller number of representatives therefrom as an executive committee to act for it in such cooperation with the Railroad Commission and its umpire."

Injunction Against Cranfill Plan Filed by Arkansas Firm

Shreveport.—Arkansas Fuel Oil Company, on June 19, filed an injunction against the Texas Railroad Commission to restrain that body from enforcing proration in the East Texas Oil field under the Cranfill plan, in so far as Arkansas Fuel Oil Company is concerned.

In an official statement from the headquarters of the company it was announced that "the company has been and is now fully in accord with the principle of proration, but under the plan offered and adopted at a meeting of oil company representatives at Tyler this week it is the company's belief that the full letter of proration cannot be observed." The Cranfill plan is the plan referred to in the statement.

The statement further said that "it is our intention to produce oil ratably from our own leases. We were paying the posted price of 67 cents per barrel under the previous plan when other companies were paying much less."

The injunction suit was filed at Austin, Texas.

Tyler, Texas.—Shortage of water for drilling rig boilers caused temporary idleness to be experienced by nearly 100 tests at intervals during the past week, but some relief was gained through rainfall, while many operators are meeting with success in the completion of shallow water wells. Marketing of water from several controlled lakes in Gregg County is getting under way on a large scale. Drilling of water wells has been found to be the surest protection against future shortages, and it is not expected that any lull in drilling will occur during the coming dry season because of the discovery of new prolific sources of underground water.

South Texas Field Developments

EARL POST, ***Staff Representative, San Antonio, Texas***

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Main Part of Saxet Field Extended ¾ Mile North

San Antonio, Texas.—The main producing district of the Saxet field, Nueces County, was extended three-fourths of a mile to the north when Gulf Coast Oil Company's M. J. Harrell 1 came in for an initial flow of 150 barrels at a total depth of 4095 feet. The casing is set on top of the pay at 4087 feet. The well is 330 feet from the south and west lines of Block 32, Section 311, GC&SF Survey, north of Moody-Seagraves' Sedwick producer.

At last reports, the well had been killed, swabbed again, and now is showing 1600 pounds pressure, spraying a small amount of oil.

The well will be remembered for its showing encountered in a sand at 3145-68 feet last month. At this level, the well tested 750 pounds pressure of dry gas through a 3/16-inch choke in 1½ minutes. This showing was considered to have opened a new producing horizon for the field.

Nueces County scored a new active operation during the week in Southern Crude Oil Purchasing Company's Charles E. Stratton, located 1650 feet from the east line and 330 feet from south line of the P. Anchow Survey, in the southwestern part of the county. The well is about six miles south of Agua Dulce. The derrick is up and a water well is being drilled.

L. L. Smith, Inc.'s H. B. Hunter well, located in the H. B. Shepherd Survey, three-fourths of a mile east of the field, has drilled to a total depth of 5388 feet. The well has been plugged back to a total depth of 3370 feet and has set 6⅝-inch casing at 3357 feet. It will be completed at this level, where the test showed considerable gas recently.

The deepest test in the field at this time is Houston Oil Company's Morgan 2, which is drilling at 5675 feet after coring a water sand at 5527-37 feet.

Several Tests of Real-Kerr Deep Horizons are Planned

San Antonio, Texas.—Deep horizons of the Real-Kerr district of the lower Edwards Plateau are to receive several tests. Work of deepening the discovery well from 3391 feet to 4600 feet and the Dan Auld 1, three miles to the southwest, to at least that depth has been started.

Eastland Oil Company and Evans and Gant's Dan Auld 1, Section 23, northeastern Real County, has resumed operations after being shut down at its contract depth of 4007 feet for the past several weeks. The bailer was lost in the hole and efforts are now being made to fish it out.

The Auld well cored 212 feet of sand from 3795 feet to its present total depth of 4007 feet and has been showing a small amount of gas ever since it was shut down.

Evans and Gant's Jeff Love 1 cored a sand at approximately 3500 feet June 22, which bailed some live oil. The well is being deepened from 3391 feet and the new contract depth is 4600 feet. Findings in other wells on the plateau which have been drilled 4000 feet cause geologists to believe that another oil bearing sand in the Love 1 will be picked up near the 3800-foot level. Love 1, located in Section 1594, Kerr County, approximately 40 miles west of Kerrville, has been on the pump since early in the year and has been producing a small amount of oil intermittently.

Evans and Gant's Seiker and Mears 1, located two miles northeast of the Love well, in the CCCSD and RGNR Railway Survey, Section 1605, is setting 6⅝-inch casing at 3240 feet in a sand topped at 3165 feet. The sand is dry.

Also northeast of the discovery, Chester A. Martin's J. E. Young 1, A. E. Bruce Survey, which was spudded June 2, set 15½-inch casing at 430 feet and 12½-inch casing at 650 feet and is resuming drilling.

Evans and Sprinkle's Haby 1, Section 175, in northeastern Real County, is setting 10-inch casing at 2165 feet. Jeff Love 2, located less than one mile southeast from Love 1, in Kerr County, is drilling at 250 feet.

Halbert and Herbert's J. D. Witt 1, Survey 1923, in Kerr County, will start actual drilling soon. The well was spudded in about three weeks ago. Titles which have been causing delay have been about cleared up.

Plan to Install Gas Lift On Live Oak County Well

San Antonio, Texas.—Houston Oil Company's Cartwright 23, in the Mt. Lucas gas field, Live Oak County, is standing 1700 feet in oil and showing 130 pounds pressure on the casing while being swabbed. The well recently opened a new horizon at 3554-65 feet, when it showed 350 feet of oil in 10 minutes on a drill stem test. The test likely will have a gas lift installed, although it is possible that it will be placed on pump.

The well is in the Oligocene formation, about 300 feet above the Jackson formation. This is quite unusual for this district, inasmuch as the production in other Pettus sector fields is found below the Jackson. The oil is 24 gravity and high in benzol content, providing desirable anti-knock gasoline qualities like the Refugio low gravity oil. The Pettus crude is of 40 to 48 gravity.

The Cartwright 23 is located in the Sandman Survey, 691 feet north and 30 degrees east of the Cartwright 11.

San Antonio, Texas.—Humble Oil & Refining Company's Kohler 50, in the Kohler pool of Duval County, has reached a depth of 6584 feet and passed the lowest level ever drilled in that section of South Texas. The well is 2805 feet from the south line and 160 feet from the west line of Survey 164. This well had a sand at 1860-87 feet that showed oil and salt water on a drill stem test, another sand at 6009-87 feet that showed a large amount of salt water and little oil, a third sand at 6216-27 feet that was dry and a fourth sand at 6317-24 feet that showed salt water on a drill stem test.

New Shallow Oil Pool is Opened in Starr County

San Antonio, Texas. — Los Olmos Oil Company has opened a new shallow oil pool in Starr County, eight miles north of Rio Grande City. The well, which is Kelsey-Bass 4, is standing 200 feet in oil at a total depth of 421 feet, 14 feet in the sand. The well is estimated to be good for around 20 barrels daily on pump.

The exact location is 2208 feet from the west line and 60 feet from the north line of block 7, subdivision of Porcion 75-76-77, Jurisdiction of Carmargo.

The company has started another well to the southeast of the producer to be known as Kelsey-Bass 5. It is 2258 feet from the west line and 360 feet from the north line of the same block.

This operator already has two gas wells in this pool, the Kelsey Bass 1 and 3, both of which are rated around 3,000,000 cubic feet daily from the same horizon. The Kelsey Bass 3 showed considerable oil at 392 to 400 feet, but was drilled to a total depth of 407 feet, finding a gas sand at 403-07 feet. Casing set was at 400 feet and the well completed as a small gasser. It is located 433 feet from the south line and 1133 feet from the west line of block 6, same subdivision.

Only Two Operations Active At Muckelroy, Zapata County

San Antonio, Texas.—One well was abandoned and another spudded in the south end of the Muckelroy pool of Zapata County. These two operations constitute the entire operations of the Muckelroy pool, which heretofore was the most active spot of the Mirando district.

E. C. Brogan's Montemayor, a semi-wildcat on block 11, Survey 64, has been closed down at 1505 feet. It has a sand at 1493-95 feet which showed a little oil and another sand at 1502-05, which showed salt water.

The new operation was Pray and Chamberlain's (Whicker) Garza 5, located in block 1, Zorro Subdivision of the Comitas Grant, which is making hole around 600 feet.

Lee County Wildcat Test Down to 3200-Foot Level

Houston.—A. H. Wheeler et al's Wheeler 1, a wildcat located six miles west and a little south of the town of Lexington, Texas, Lee County, recently drilled too deep into what was reported to be a pay sand at 1700 feet and struck a water flow which could not be cut off. Drilling continued on this test after the water flow had been mudded off and the well is now down to the 3200-foot level.

In the last 240 feet a broken formation, reported by the owner of the well as carrying oil and gas was encountered. These breaks ran from four inches to two feet in thickness. Casing has just been set with wall packers above and below the water encountered, and the operators at the middle of the week stated they were bailing the well with difficulty, due to continuous heads of gas bringing in mud through the 240 feet of perforated casing which was set on the bottom of the string of casing.

Wheeler 1 is located about three miles south of the Chapman field, and is the only test seeking production in that area. Two other tests in Lee County have been shut down for the past four weeks but will probably resume operations as result of the shows found in Wheeler 1.

Wheeler et al's Stolts-Frede 1, located three miles northwest of Lexington, was shut down at 1980 feet while Burt et al's Sanders 1 was shut down in the Taylor at 3120 feet.

Houston County Scene of Numerous Wildcat Tests

Houston.—Houston County is coming into the limelight of wildcat play with the announcement of a fifth test to be drilled in the north part of the county. P. T. Ramsland, a Toronto, Canada, operator is drilling Crabb 1, which was spudded in last week. This test is located four miles west of Grapeland in the Ramon de la Garza Survey, on the J. R. Pennington farm. Crabb 1 is being drilled on a 6000-acre block held by P. T. Ramsland. The contract for the test specifies drilling to 4000 feet.

The only operation in the county that has reached any material depth is the A. E. Winfree test, Hodges 1, which is now drilling around 2450 feet. This well is located in the northeast part of the county, 14 miles east of Crockett, in the Russell Survey. A gas show was reported at the 2350-foot level. Hodges 1 is being drilled on a 15,000-acre block.

Jones-Irish Development Company's Wooters 1, located five miles north of Lovelady, in the southern part of the county, was spudded in last week but has been shut down. Houston County Development Company's Starks 1, located in the John Chairs Survey, five miles north of Lovelady, has been rigged up and will be spudded in some time next week. Mineral Research Corporation's G. L. Murray 1, in the Durst Survey, is down 500 feet and has set surface casing. Gas pockets were reported struck in this test at 220 feet and 255 feet.

San Antonio, Texas.—The seventh oil producer was completed in the Schoolfield and O'Byrne pool of Duval County when The Texas Company's Bishop Duval Land Company 2, 1920 feet from the west line and 330 feet from the east line of Survey 135, came in for 300 barrels flush. The well logged the sand from 2355-88 feet, has casing set on top of the pay. Two and one-half miles east of this pool, John F. Camp and Southern Crude Oil Purchasing Company are preparing to spud in Hubbard 1, located 1650 feet from the south line and 330 feet from the east line of Section 75. The well is on a 5120-acre block.

Bonus Offer Accelerates Liberty County Activity

Houston.—Announcement of an offer of a $10,000 bonus by the Cleveland, Texas, Chamber of Commerce for the first oil well to be completed in that section has resulted in increased activity in the northern part of Liberty County.

A second test for this area, Fenner 1, started two weeks ago by Ingram Petroleum Company is now down around 1000 feet. This test is located about two miles southeast of Cleveland.

A sulphur test will also be made on the tract by Mims et al as a result of a contract signed with Ingram Petroleum Company. A core drilling rig is being set up for this test and will begin operations within the next week.

San Antonio, Texas.—The T. B. Slick Estate continues to have trouble with its McFadden 1, in the J. Barian Survey of Victoria County, which recently extended the McFadden field three miles northeast. The McFadden well broke the liner after being completed the second time and then sanded up. The first time it was completed the well showed 1100 pounds pressure and the lead seal broke, letting the tubing drop and the well sand up. This was remedied and the well brought in the second time, showing 1550 pounds before the liner broke. This well has the sand at 3502-12 feet with nine-inch casing set on top of the sand.

Gulf Coast Field Developments

JACK LOGAN, *Staff Representative, Houston, Texas*

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First Oil Well Completed On South Louisiana Dome

Houston.—The second oil field for the Gulf Coast territory within one month is the result of the discovery of oil on Bayou Choctau dome, South Louisiana, by Standard Oil Company of Louisiana, June 22, in completing Gay 1 for initial production of 3000 barrels per day at 4353 feet.

Gay 1 came in Monday afternoon, June 22, with an estimated flow of 3000 barrels daily through three-eighths-inch choke, but was closed in after a few minutes and was flowing 150 barrels of 29 gravity oil daily through one-eighth-inch choke late Tuesday. One joint of three-inch screen was set and a full string of 2½-inch tubing was run in the well in completing it.

The discovery well is a joint operation of Standard Oil Company of Louisiana and Gulf Production Company, drilled by the former. Gay 1 is located 2500 feet north and 100 feet east of the southwest corner of the east half of Section 52-9s-11e, Iberville Parish, Louisiana.

Bayou Choctau dome, also known as Plaquemine Bayou dome or Grosse Tete dome, is a seismograph prospect discovered by Gulf Refining Company in 1927. The first developments were begun in August, 1930, when Texas Gulf Sulphur Company, which has the sulphur rights on the dome, moved in three rigs and began drilling on the Wilbert land in Section 53-9s-11e. The first two tests were abandoned at 1800 feet and the third test, the one proving the dome, was abandoned in salt at 682 feet. Cap rock was hit in the fourth test, Wilbert 4, at 631 feet and was abandoned at 656 feet. Altogether there have been nine tests drilled on the dome. Prospecting was abandoned by Texas Gulf Sulphur Company after location had been made for Wilbert 9 and that location was abandoned and the materials all moved to the Moss Bluff, Texas, field. Gay 1, the ninth actual test, was the first attempt made to locate oil.

Only One Test Drilling In Lake Peigneur Area

Houston.—Actual drilling operations in the Lake Peigneur area, Iberia Parish, have been reduced during the past three weeks to one test with permit issued for the location of another to be started soon. Jefferson Lake Oil Company's Lake Peigneur 17, the only active test in the field at this time, is down 774 feet. Cap rock was encountered in the hole at 770 feet. This test is located 300 feet southeast of Lake Peigneur 11 and 285 feet northeast of Lake Peigneur 5. Lake Peigneur 18 will be located 300 feet east of Lake Peigneur 5. Lake Peigneur 6, 14, and 15 are still undrilled locations.

The depressed conditions in the oil market have caused the operations in this section to be confined to exploitation of the sulphur deposit although the prospects for finding oil on the dome have proved very favorable. A sulphur producing plant is being designed by Jefferson Lake Oil Company, capable of handling approximately 100,000 tons annually.

Fourteen wells have been drilled on this prospect in Lake Peigneur, three of the tests having gone off the rock, two failed to disclose sulphur, and nine have drilled into sulphur-bearing rock which is about 200 feet thick. The seismograph surveys over the Lake Peigneur salt dome have indicated a total of 650 acres covered by the cap rock. Drilling is done from a steel barge, with the drilling rig permanently mounted on it.

DuPonts to Develop Sulphur Project in La Fourche Area

Houston.—The DuPont interests have organized States Production Company to prospect for sulphur on the Chacahoula dome, La Fourche Parish, Louisiana. This dome is also known as Lutcher or Thibodaux dome.

States Production Company has approximately 3000 acres under lease assigned from General Chemical Company. Plans for developing the sulphur prospect are being rushed forward with announcement of one location on the dome to be spudded the latter part of this week. This first location of the new company will be Lutcher Stark 1, Section 71.

No oil production has been found on the dome yet, although Gulf Production Company has completed 25 tests. Union Sulphur Company and Texas Gulf Sulphur Company have also done some drilling on the dome, testing its sulphur possibilities. The first well drilled, Stark 1 of Gulf Production Company, proved the dome, hitting cap rock in October, 1927, at 1300 feet. The shallowest cap rock has been around 1100 feet. Practically all drilling has been done on the top of the dome, while only two of the tests have drilled below 3000 feet.

Houston.—O'Hara et al have abandoned Schrader 1, a wildcat test in Austin County, at 3900 feet in shale, after having spent almost a year in putting down the test. The well was started about August 1, 1930, and was drilled to 1800 feet before it was shut down for three months.

Drilling operations since the first of the year have been irregular with one shut-down lasting two months at 3480 feet and a final fishing job requiring another month at the total depth of the test.

Schrader 1 is located in the Cumming Hacienda Survey, 450 feet from the northeast corner on the creek and 150 feet from the southeast corner of the 22-acre tract.

Houston.—Waller County will receive its first wildcat test in over a year following announcement of a location made four miles northeast of Hempstead. S. E. McDaniel has made location for Citizens State Bank 1 and is building derrick. Machinery will be moved in within the next week and the test will be rigged up for spudding in within the next three weeks. Citizens State Bank 1 is situated in the B.B.B.&C. Railroad Survey Number 2 and in the middle of the Citizens State Bank 150-acre tract. This test is located about seven miles southwest of the Waller geophysical prospect.

Louisiana--Arkansas Field Notes

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Smackover's 5000-Foot Test Shut Down Awaiting More Line

Shreveport.—Lion Oil Refining Company and associates on Monday, June 22, were shut down in Guy P. Hayes A-9, SW NE Section 4-16-15, Union County, Arkansas, Smackover's first 5000-foot test, with the hole standing with salt water within 125 feet of the top. Bailing was started after plug was drilled in nine-inch O.D. casing which had been cemented at top of six feet of sand encountered from 4011 to 4017 feet, corrected depth, when the bailer and 1500 feet of bailing line were lost in the hole. Operations were shut down awaiting arrival of more bailing line. If the bailer and line are recovered it is planned to core ahead. The test was first reported to have encountered sand at 3998 feet but steel line measurement showed the contact at 4011 feet with total depth of 4017 feet.

In Washington County, North Arkansas, during the past week Taylor and associates abandoned Runny 1, Section 1-3n-29w, as a dry hole at 1702 feet in black shale.

No new locations were made in Arkansas during the past week. There are only 10 active drilling operations under way in that state.

Four Completions Recorded In Zwolle During Past Week

Shreveport.—Zwolle during the past week continued to be the only oil district in North Louisiana showing any activity, a total of eight completions, four of them producers, being recorded in that district. Three of North Louisiana's four new locations, made during the last week, were made in that area.

Stovall Drilling Company's Nulton 1, NW SE NE Section 1-17-13, the second producer, in a one-mile southwest extension of Zwolle townsite production, completed the previous week was gauged at 1000 barrels daily capacity and late last week was flowing through an 11/16-inch choke at the rate of 797 barrels daily. W. M. Coates has derrick up in NE SW NE Section 1-7-13 for a west offset. The Texas Company abandoned De Latin 1, Section 3-7-11, in the southeast part of the Zwolle east field as a dry hole at 2650 feet as a dry hole in chalk, but erected derrick for another test, Landrum 1, NE NE SE Section 32-8-11. Magnolia Petroleum Company made location for Peterson 1, NW NE NE Section 10-7-11.

W. M. Coates abandoned McNeeley 1, Section 14-7-11, as a dry hole in chalk at depth of 2630 feet. Lyons and Neely's Byrd 2, Section 1-7-11, was completed flowing 70 barrels of oil daily through two-inch tubing from chalk at total depth of 2480 feet. In the same section George Pipes, Trustee's Byrd 1 was abandoned as dry in chalk at 2610 feet, but Eddie Self's Jacobs 1, also in the same section, is flowing 30 barrels daily from 2472 feet, also in chalk. In Section 11-7-12, H. W. Perritt's Boring 1 is pumping 40 barrels daily from the chalk horizon at total depth of 2602 feet.

Lacy Production Corporation officials have decided not to rebuild rig at Cooper 1, Section 30-8-11, the derrick having been blown down recently in a storm while the well was being standardized. It was abandoned as dry at 2620 feet in chalk.

Five outside tests in Zwolle are drilling at present and two others are being standardized.

A situation confirming the theory originally advanced by H. D. Easton, the discovering geologist of the Zwolle district, that the Zwolle marl-chalk producing horizon is a network of small faults or "a fractured zone" has developed in the drilling of two tests in the southeast part of the Zwolle field by Sabine Royalties Company, Incorporated. This company's Bill Hill 1, NW NE Section 5-7-11, which is being standardized at 2546 feet, topped the Zwolle marl at 2217 feet, while this company's Bill Hill 2, SW SE SE Section 32-8-11, did not top the marl until 2300 feet was reached. Considering the difference in elevation Bill Hill 2 checked 75 feet lower than the first test, despite the fact that they are offsets, 6⅝-inch casing was cemented during the last week at 2302 feet in Bill Hill 2, total depth being 2306 feet.

Shreveport. — T. P. Fields, Jr., during the last week started rigging up for Summitt Land Company 1, Section 1-21-1w, a wildcat in Union Parish, Louisiana. Fields has a 9400-acre block in which Ruston Drilling Company, United Gas Public Service Company and Arkansas Natural Gas Corporation are reported to be interested.

Thirteen Tests Abandoned In North Louisiana Fields

Shreveport.—Thirteen wells in North Louisiana were abandoned during the past week, the Cartersville field, in Bossier Parish, the Cotton Valley field, in Webster Parish, and the Naborton (De Soto Parish) field having most of the abandonments. Six wells were abandoned in Cartersville, nine in Cotton Valley and four in Naborton. One well was abandoned in Haynesville, one in Pine Island (Caddo Parish), and one in Bull Bayou (Red River Parish). Curtailment of activity continues in older proven fields due to high lifting costs under the present schedule of oil prices which are particularly onerous in Louisiana, where the severance tax is on a gravity basis with 11 cents per barrel being charged on oil of 40 gravity and above. State Oil Corporation has shut down 40 of its 80 producing wells in the shallow oil field at Hosston, Caddo Parish. The shut down is planned for 90 days.

Jackson, Miss.—Mississippi experienced a quiet week during the seven-day period ending June 21; no new locations nor completions were announced. United Gas Public Service Company's Hartfield A-1, SE NW Section 7-5-2e, Rankin County, with elevation of 272 feet, was spudded during the past week and 12½-inch surface casing was cemented at 105 feet. The deepest active drilling operation at present under way in the state, Ohio Oil Company's Cantrell 1, NE NE Section 16-15-5e, Clay County, North Mississippi, is shut down in black shale at depth of 4253 feet, awaiting 5000 feet of drill line.

INTERNATIONAL PETROLEUM
IN REVIEW

Ploesti, the oil capital of Roumania

British Guiana Thrown Open For Alien Development

"It appears that we have no oil in British Guiana. Therefore, let us let down the bars and allow Americans and other foreigners to come in and swap their money for dry holes."

One can imagine that some such message went forward from Government House, Georgetown, British Guiana, to the secretary of state for the Colonies, at London. At any rate, a perusal of the record of the search for oil in Britain's South American colony and of discussion which preceeded a recent decision to admit alien prospectors gives the impression that such is the basis for this breach in empire policy forbidding oil operations by foreigners in British domain. Heretofore, aliens and non-British capital have been barred from prospecting for oil in British Guiana, India, Burma, and except in special cases in Trinidad, British West Indies.

Some surprise was aroused in international circles by a recent official announcement by the governor of British Guiana, reading in part as follows:

"His Excellency the Governor announces, for general information, that he has received a telegram from the secretary of state to the effect that the embargo on prespecting for oil by foreign companies may be removed but that any arrangements made with foreign interests, before being definitely completed, must obtain the express approval of the secretary of state. All possible precautions will be taken to prevent mere speculations calculated to damage the prospects of serious development of any oil industry. The secretary of state will only be prepared to consider applications involving foreign capital if made by responsible groups and will require to be satisfied that applicants possess the necessary financial resources and can command adequate technical advice and skill."

Regulations governing the filing of applications for concessions covering crown lands were published in "The Official Gazette" on May 9, 1931; and certain lands totalling about 4000 square miles situate between the Corentyne and Essequibo rivers were thrown open to bidders for a period of 30 days. Presumably, other lands may be thrown open from time to time in future. These preliminary regulations require that applicants shall (a) state the financial resources at their command, (b) give particulars of geological and technical talent and equipment at their disposal, (c) state the amount proposed to be expended within one year, and (d) mention the time which must elapse before active exploration under skilled direction will be commenced.

Early Reports

The record of oil in this region, from which not one barrel has yet been produced, began 181 years ago with a report by Storm van Gravesande to the Zeeland Chamber on the Colony of Essequibo, dated January 19, 1750, of which the following is a translation, in part:

"On the sea-shore are found waves of a kind of bitumen that can be employed as tar and being quite as good as Barbados tar, for it is in general use there."

Several similar records were made in intervening years, including one of modern interest by E. C. Buck, F. G. S., formerly director of public works in British Guiana, (now

a dealer in oil well supplies at Port of Spain, Trinidad), in association with Sir J. B. Harrison, director of science and agriculture, who made the following note while in sight of pitch oozing from the earth at Sancretal Bay on April 29, 1915:

"The accumulation of pitch is not on the mudflat as were the thin cakes we saw at Krunkenal Point in 1912 but on a low ridge of bush-covered ground some 50 yards inland from extreme high-water mark. It is oozing through a typical forest-soil which shows no signs, as far as we could ascertain, of having been covered, at any rate recently, by sea-water."

Mr. Buck's report on his second visit to Sancretal Bay on October 6, 1915, was as follows:

"I visited the site of the previous pitch deposits at Sancretal Bay, near the mouth of the Waini River. The site was only reached with great difficulty, after wading through very deep mud, but I am pleased to report when we at last reached the spot we found a fresh exudation of pitch had formed on the surface of the ground.

"In this connection it is important to note that at my last visit all evidences of pitch were carefully removed, so that there is no doubt whatever that the pitch recently found has exuded from the ground from below where we found it."

Other geologists who surveyed the territory expressed the opinion that such "shows" of pitch have their origin in flotation from Venezuela, a conclusion with which Sir J. B. Harrison, author of Sessional Paper No. 37 of 1925 (C. S. O. No. 634/23), the source from which this material is drawn, did not agree. This latter authority also related the finding of bitumen near Krunkenal Point on October 2, 1912, in company with other government officials.

Extensive geological prospecting was undertaken by British oil interests during the World War, all of which were of negative result, geologists sent out having been unanimous in their condemnation of the colony from the standpoint of prospective oil production. B. F. Macrorie and J. A. Bullbrook, geologists representing a British controlled oil company, concurred in final conclusions reading as follows:

"From what has been written, it must be evident that the writer's considered decision is that British Guiana, as a possible future producer of petroleum in paying quantities, must be unqualifiedly condemned, because,

"(a) It has been shown that most of the country 'is composed of igneous rocks, which cannot contain petroleum in any appreciable quantities.'

"(b) The only stratified sedimentary beds. (the 'Kaieteur sandstone series) consist only of porous sandstones and conglomerates without any alternating impervious sealing strata to hold oil within them and prevent the escape; they are of fresh water deposition containing no signs of organic matter in them by fossils or otherwise and no indications of petroleum ever having existed in them; they are not folded into anticlines with the concomitant domes essential for the concentration of oil in large quantities; they are traversed by intrusive sills and dykes of igneous rocks such as would tend to destroy any quantities of oil which might have been contiguous to the sills and dykes and the whole series is exposed by the river courses cutting through them to their base which would certainly have caused seepages had there been oil existing at this date.'

"(c) The sedentary residues of the igneous rocks 'which cover a large area in the colony are unsuitable for the storage and accumulation of oil, being derived in *situ* from the igneous rocks without the opportunity of containing oil forming organisms within them and also being without any anticlinal structure.'

"(d) The alluvium on which pitch has been found and through which the gas shows emanate is as yet unconsolidated and has not been subjected to compression and folding into anticlinal oil reservoirs, and, therefore, is at present entirely unsuitable to supply petroleum in valuable quantities.

"(e) The geology of British Guiana is simple enough to enable the insistence that the above reasons are sound, and that there can be no geological conditions in British Guiana which are similar to the complicated stratgraphical conditions of Trinidad, and northern Venezuela, the various sedimentary series of rocks occurring in Trinidad and Venezuela not being represented in British Guiana.

"(f) None of the phenomena, which have been relied upon by optimists of the possible future of British Guiana as an oil-producing country, are of the slightest proof that oil may exist buried below the surface, rather the logic of the evidence available indicates that the pitch and oil so far seen has been transported from Venezuela by water and cannot exist in large quantities below the surface."

Referring to British Guiana as "hopeless for petroleum," Mr. Macrorie recommended that resources available for oil development would better be employed in improving means of communication, water supplies, health standards, and encouraging the more scientific development of the colony's other mineral resources.

Possibly as a result of that recommendation, a series of water wells have since been drilled along the inhabited coast line. Correspondence with the Department of Lands and Mines developed the fact that gas was encountered in some of these wells, but no proof of oil.

Show of Gas

However, a well drilled for water on the West Coast of Berbice in 1926 encountered a blow-out of inflammable gas at a depth of 280 feet. S. Bracewell, assistant government geologist, investigated the occurrence and reported as follows under date of June 11, 1927:

"After passing through alternating layers of clay, white sand and black organic material for 280 feet work had to be suspended in consequence of a blow-out of inflammable gas. The force of the exit lifted a colmun of water and mud to a height of 30 feet. The gas escaped vigorously for some time and on being ignited shot a flame about 25 to 30 feet in length. It afterwards subsided and has been maintained at the present rate of flow.

"It was not until January of the present year that the gas was utilized. A gasoline drum was placed over the hole, and from that a three-inch pipe carries the gas to the kitchen of the estate hospital and leads to two one-inch pipes at the nozzles of which the gas is burned. Air is admitted to the pipe below the nozzles. Two flames six to eight inches high of bluish color are produced. When the air inlet is closed the flame is yellowish.

"A U tube with mercury was attached to the outlet and this registered a pressure of about 1.2 pounds per square inch in about five minutes time. A sample of the gas was collected over water, a receptacle of one-tenth of a cubic foot capacity being filled in one minute.

"Two more wells in the vicinity which were sunk about the same time and where the natural gas had been encountered at a similar depth were also pointed out to me. A continuous flow of bubbles of inflammable gas was ob-

served in the water covering both wells. In the third attempt boring had been continued below the gas reservoir and a slight head of artesian water was obtained. The water has a high iron content, which may be responsible for the iridescent petroleum-like scum which covers the surface of the water in the sump. Black greasy organic matter is brought up in one of the wells.

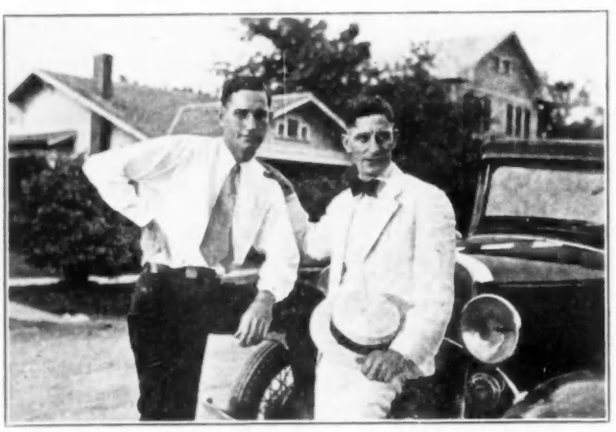
"Mr. C. L. C. Bourne, assistant analyst, examined the gas in the government laboratory and reports the composition to be as follows:

Methane	93.5 per cent
Carbon Dioxide	0.6 per cent
Nitrogen	4.2 per cent
Oxygen	0.6 per cent
Water Vapor	1.1 per cent
Total	100.00 per cent

Assuming

" . . . The single well produces about 144 cubic feet per day, and it is reasonable to believe that the three wells have given off a total of at least 140,000 cubic feet in the 12 months during which they have been producing."

A war-time concession granted to a well known British oil company was abandoned in 1923, following which the aforementioned records of geological investigations were made public and the government undertook the re-examination of its policy of exclusion, with the ultimate result recorded at the beginning of this article.



Paul Tilbury and Bob McLemore meet in Houston, traveling from opposite sides of the earth

Paul Tilbury and Bob McLemore, friends of former years and veterans of foreign service met in Houston and had dinner together, with Mrs. Tilbury and Mrs. McLemore, during the week-end. Both are graduates of the Gulf Coast school of rotary. McLemore always comes to Houston, when returning from foreign service; and Tilbury is taking advantage of his current holiday to build a new home at Beaumont. The latter hails from Trinidad, British West Indies, where he is in charge of rotary drilling for Trinidad Central Oilfields, Ltd.; and the former has just returned across the Pacific from Sumatra, Dutch East Indies, where he completed a contract with the Bataafsche Petroleum Maataschappij.

North European Oil Corporation is moving its headquarters from Berlin to Hannover, Germany.

Turner Valley Gas Regulations Arouse Interest

Calgary, Alberta.—The new oil and gas regulations of the Provincial Government and proposed legislation for the restriction of the open flow of wells in the Turner Valley field form the chief subjects of current discussion among members of the oil and gas industries and men in municipal and public life.

A special hearing held by the city of Calgary developed some very interesting discussion with reference to the Turner Valley field, now producing from 4000 to 5000 barrels of naphtha daily from some 70 wells. It was brought out by parties to the discussion that operators, allegedly, are producing from 300,000,000 to 500,000,000 cubic feet of gas per day in order to recover this relatively small volume of naphtha, of which total only about 50,000,000 cubic feet per day are consumed by domestic and industrial users and about 5,000,000 cubic feet per day are stored in the old Bow Island gas field, the remainder being burned by producers in the field.

Advocates of restrictive legislation propose that the gas output of wells in the Turner Valley field should be reduced to 40 per cent of their potential capacity. The charge was made that certain operators are producing naphtha from wells which properly should be considered and classified as producers of gas only, having gas-naphtha ratios ranging between 300,000 and 400,000 to one. A further spectacular charge was made that, on a B.t.u. basis, the daily wastage of gas at Turner Valley is equivalent to nine train-loads of high-grade coal, each train consisting of 50 cars with an average load of 40 tons each.

H. R. Davis, consulting engineer of Pittsburgh, said that, up to the present, about 350,000,000,000 cubic feet of gas has been withdrawn from this great reservoir, which, according to an estimate made by him on a previous visit to Alberta, originally contained about 500,000,000,000 cubic feet of gas. Current withdrawals, he said, are averaging around 175,000,000,000 cubic feet per annum, which, if his original estimate be correct, or approximately so, would seem to fix the life of the field at about 15 months more.

This authority pointed out that hope for a further life of three years, at the current rate of withdrawal, would require for its basis a reserve totalling 800,000,000,000 cubic feet, originally.

"I have never considered that Turner Valley had that much gas reserve," he remarked.

He also said that rock pressure in the field, originally 1200 pounds per square inch, is dropping at the rate of 1 1/3 pounds per day.

Not all operators, however, are producing gas wastefully. Many of the larger wells are being operated under a high rock-pressure and with very favorable gas-oil ratios, according to Turner Valley standards. Mercury Oils Number 1, for example, produces more than 500 barrels of naphtha from a gas flow of about 25,000,000 cubic feet per day and Foothills No. 1, a well which has been producing for more than three years, yields around 100 barrels daily from a gas flow of less than 5,000,000 cubic feet, which gives both wells a ratio of about 50,000 to one. Wells which have been on production for two or three years generally show a more rapid decline in naphtha content than in gas pressure.

Completions for Past Week in U. S. Fields

▼ ▼ ▼

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
BRYAN COUNTY—		
O. P. Bush, Commerce Trust Co. 1, ne c 35-6s-9e	*	740
COTTON COUNTY—		
Shasta Oil Co., Moore 5, sw c ne sw 2-2s-10w	15	2195
CREEK COUNTY—		
Curtis Oil Co. and Tulsa Oil Co., Purcell 1, c nw ne 22-19-9e	170	2752
GRADY COUNTY—		
J. B. Nichols, Williams 1, c s½ s½ 24-4n-8w	¶12	1930
HUGHES COUNTY—		
J. J. Wright, Roberts 1, se c sw 15-5n-11e	*	1645
LINCOLN COUNTY—		
Mid-Continent Pet. Corp. et al, Lillie 1, ne c se 9-13-6e	¶13½	4035
OKLAHOMA COUNTY—		
Westgate Oil Co., Grace 1, nw c ne nw 10-11-3w	7360	6365
Simon and McGinnis, McGinnis 1, ne c se nw nw 10-11-3w	9230	6380
Phillips Pet. Co., Dora 1, sw c ne nw 10-11-3w	5675	6363
Paine-Johnson Inc., Chapin-Levi 1, nw c se nw nw 10-11-3w	4515	6385
Great Southern Pet. Co., Bucher 1, nw c se sw nw	3490	6430
Anderson-Pritchard Oil Corp., Wilson-Carpenter 1, sw nw ne 2-11-3w	1100	6220
Phillips Pet. Co., Hare 1, ne c sw se 34-12-3w	8290	6302
OKMULGEE COUNTY—		
Eagle-Picher Lead Co., Bird 2 (owd) sw c nw nw ne 5-12-12e	5	2146
PITTSBURG COUNTY—		
Mid-Western O&G, Mattock 1, c nw se 8-7-18e	¶1	1937
PONTOTOC COUNTY—		
Stanolind O&G, Haynew 2, "B", ne c sw 32-5-5e	360	2100
POTTAWATOMIE COUNTY—		
Twin State Oil Co., Archer 5, sw ne se 22-6-3e	700	3521
STEPHENS COUNTY—		
Ross Southard, McKinley 1, ne c 25-1n-8w	*	1063
WAGONER COUNTY—		
J. P. Flanagan, Showalter 1a, cwl se sw 20-16-19e	¶1	1010
Barth et al, McIntosh 1a, nw c sw se 22-18-16e	*	1071

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
COWLEY COUNTY—		
Lewis Production Co., Stark 1, se ne sw 19-34-7e	*	3092
GREENWOOD COUNTY—		
Gore et al, Smith 1, sw c ne 6-24-12e	175	1711
MARION COUNTY—		
Harwood Oil Co., Mott 1, sw se nw 11-17-4e	*	2412
McPHERSON COUNTY—		
Phillips Pet. Co., Morehouse 2 (owd) nw c 3-21-3w	25	3424
Miller, Shell et al, Blair 1, nw c 32-19-1w	60	3431
Syndicate O&G and Shell, Becker 1, se c 36-19-2w	1215	3398
Twin Drlg. Co., Phillips and Shell, Wiles 1, se c ne 25-19-2w	2465	3397
Graham Bros., Rolander 1a (owd) se sw sw 30-18-2w	*	3046
NESS COUNTY—		
Gypsy Oil Co., Coleman 1, c sw ne 25-17-25w	*	4807
RENO COUNTY—		
McPherson O&G Devel and Shell, Goering 1, sw c ne, 1-23-4w	100	3270
RICE COUNTY—		
Hipple and Rogers, Rainey 1, nw c se 3-21-6w (owd)	80	3404

For Tabulation and Comparison See Market Section

Company, Well and Location	Initial Production Bbls.	Depth
ROOKS COUNTY—		
Empire O&R, Holman 1, sw ne se 17-7-20w	*	3688
RUSSELL COUNTY—		
Stearns & Streeter et al, Miller 1, sw se se 30-14-13w	120	2900
SALINE COUNTY—		
Stanolind O&G et al, Martin 1, ne se se 3-16-3w	*	3534
SEDGWICK COUNTY—		
Magnolia Pet., Wheeler 5, sw ne ne 19-27-2e	240	2962
Shell Pet. Corp., Lygrisse "A" 3, (owd) sw c ne 15-26-2e	1200	3193
E. B. Shawver, Robbins 2, ne nw sw 21-28-1e	*	3515
Lario O&G et al, Heckard 1, sw se nw 18-27-2e	*	3377

CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
LONG BEACH—		
D'Angelo Oil Co., No. 6	475	5275
POTRERO—		
Wilshire Annex Oil Co., Potrero	1400	3737
PLAYA DEL REY—		
Pacific States Holding Co., Marimar 1	200	6075
VENTURA AVENUE—		
Associated Oil Co., Lloyd 54	150	7275
Lloyd 87	1350	7088
Shell Oil Co., Taylor 63	1900	6397

EASTERN STATES

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
GREENE COUNTY—		
Convex Glass Co., Vanvorhes 1	*	2426
WASHINGTON COUNTY—		
Natural Gas Co. of W. Va., S. A. Post 703	*	3389
Carnegie Natural Gas Co. Ewing 1	*	....
Union Gasoline & Oil Corp., Sprowls hrs. 1	*	....
Newland 1	3	....

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
CABLE COUNTY—		
General Gas Co., Kinnard 1	¶1	....
CALHOUN COUNTY—		
D. Hiveley, Hall hrs 2	¶¼	1409
GILMER COUNTY—		
Gilco Oil & Gas Co., Woofter 2	*	2685
HANCOCK COUNTY—		
Freshwater Bros. Fee 1	*	....
KANAWHA COUNTY—		
United Fuel Gas Co., Ashbaugh 4262	¶¼	5096
MINGO COUNTY—		
Dickinson Oil & Gas Co., Harvey 1	¶1	3478
MONONGALIA COUNTY—		
Hope Natural Gas Co., Tennant 165	¶¼	3339
RITCHIE COUNTY—		
J. F. Deem & Co., Johnson hrs 1	1	1760
King Knob Gas Co., Tingler 4	2	....
ROANE COUNTY—		
Paul Weekley & Co., Sargent 1	*	2347
WAYNE COUNTY—		
Owens-Illinois Glass Co., Parsley 1	¶1½	2590
Chartiers Oil Co., Large 1	3	2064
WETZEL COUNTY—		
Moorehead & Null, Eakens 1	¶2	2967

SOUTHEASTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
WASHINGTON COUNTY—		
McTaggart & Co., Drain 5	¶¼	1864
McVey Bros. Wilson 2	*	1565
MONROE COUNTY—		
Day Oil Co., Burkhart 2	¶¼	2025
B. A. Cobb & Co., Hanson 3	¶¼	1995

CENTRAL OHIO

Company, Well and Location	Initial Production Bbls.	Depth
ATHENS COUNTY—		
Bode & Co., Devore 2	*	1075
Ohio Fuel Gas Co., Henderson 1	*	1338
ASHLAND COUNTY—		
Commonwealth Gas Co., Stone 2	¶¼	2643
Ohio Fuel Gas Co., Humphrey 1	¶¼	....
Applegate 2	*	....
Weiler 1	¶3¼	....
Hines 2	¶1	....
BELMONT COUNTY—		
J. W. Kirk & Co., Cater 1	*	1803
GUERNSEY COUNTY—		
Ohio Fuel Gas Co., Stocker 5	13	3436
LORAIN COUNTY—		
Elyria Steel & Tube Co., Schwartz 2	*	....
MUSKINGUM COUNTY—		
The Pure Oil Co., Hudkins 2	118	3200
MEIGS COUNTY—		
French Dry Cleaning Co., Fee 1	*	940
Bing & Co., Jones 2	¶¼	609
PERRY COUNTY—		
D. L. Mellick Trus. Stoneburner 1	*	3595
STARK COUNTY—		
Brendall & Co., Wernet 1	¶¼	4463
VINTON COUNTY—		
Kelch Bros. Bacus 1	¶¼	845

INDIANA

Company, Well and Location	Initial Production Bbls.	Depth
VANDEBURG COUNTY—		
Mack Leighty & Co., Schlag 1	*	....
John Drake & Co., Erskine 1	*	1075
V. D. Smith, Hitch 1	*	987
MONROE COUNTY—		
Ohio Oil & Petroleum Exploration Co.'s Hile 1	¶1½	822
Saddle Creek Oil Co., Durbib-Hesler 1	*	....
JAY COUNTY—		
J. D. N. Wesner, Hoppes 1	*	....
Hoppes 2	¶¼	....
HANCOCK COUNTY—		
J. H. Snyder, Felt 2	¶½	....
PIKE COUNTY—		
Indiana Southwestern Gas Corp. Gudgell 1	*	4009
DAVIESS COUNTY—		
James E. Young, Robinson 1	¶¼	....

ILLINOIS

Company, Well and Location	Initial Production Bbls.	Depth
WABASH COUNTY—		
Robinson Oil Co., Schaeffer 3	5	1494

KENTUCKY

Company, Well and Location	Initial Production Bbls.	Depth
BARREN COUNTY—		
M. Liebling & Co., Bush-Samson 1	¶1	....
CARROLL COUNTY—		
G. M. C. Oil & Gas Co., Furnish 2	¶5	330
HENDERSON COUNTY—		
Imperial Oil & Gas Products Co., Freeman 1	¶¼	....
Berry 1	¶¼	....
Jennings 1	¶¼	600
MUHLENBERG COUNTY—		
Ellis & Young, Rothert 1	5	....
H. & K. Producers Co., Shipworth 1	*	825

MICHIGAN

Company, Well and Location	Initial Production Bbls.	Depth
MISSAUKEE COUNTY—		
Henry Miltner, Miller & Co. 1	¶2	3580

TEXAS GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
AUSTIN COUNTY—		
O'Hara et al, Schrader 1	*	3900
BARBERS HILL—		
Humphreys Corporation, Winfree 5	500	5540
BRAZORIA COUNTY—		
United Oil Syndicate, Speer 1	*	1865
BURLESON COUNTY—		
Mid South Oil Co., Duckworth 1	*	3070
CITRUS GROVE—		
Empire G. & F. Co., Boker 1	*	6460
MONTGOMERY COUNTY—		
Mike Hogg et al, Hunt 1	*	4743
NACOGDOCHES COUNTY—		
West Texas O & R Corp., King 1	*	4000
Fain & McGaha, Pirtle 1	*	3955
Upland Oil Co., Cooper 1	*	4050

CENTRAL EAST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
JOINER FIELD—		
Big Indian Oil Synd., Deason 1-A	2500	3716
F. L. Coogan et al, F. A. Florence 1	12,000	3741
Golding-Murchison Oil Co., E. E. Thrash 1	6000	3714
M. A. Thrash 1	5500	3763
Gulf Prod. Co., Grissom 2	8500	3764
W. P. Keeling 1-B	3000	3740
L. P. Thrash 2	10,000	3686
Humble O&R Co., Wheelis 1	6000	3791
F. M. Wooley 2	6500	3706
H. L. Hunt et al, Cook 1	8000	3732
Kirby Pet. Co., Samp Stone 2	12,000	3658
Magnolia Pet. Co., J. R. Wright 2	10,000	3688
Republic Prod. Co., L. P. Thrash 1	12,000	3793
The Texas Co., I. D. Stone 1	6000	3698
Tidal Oil Co., L. J. Pinkston 2	12,000	3810
J. F. Shaw 1	9000	3755
Turman Oil Co., R. Dark 3	2000	3711
Paul Vitek et al, G. W. Eaton 3	15,000	3774
Ward Oil Corp. et al, Giles 3	7500	3746
J. C. Wynne et al, C. Young 1	9600	3675
KILGORE FIELD—		
British-American Oil Prod. Co., W. A. Ector 2	8000	3628
Carl Brown & G. & R. Oil Co., T. B. Blackman 1	10,000	3618
Byrd & Frost, Inc., W. Smith (39-ac) 1	9500	3591
Cranfill & Reynolds Co., Susie Scott 2	9500	3678
R. H. Dearing & Sons, T. H. Goforth 1	12,000	3787
Doss & Jones, E. Hagler 1	10,000	3618
Dr. T. H. P. Duncan et al, Duncan 1	12,000	3636
East Texas Ref. Co., Mitchell 1	11,000	3592
H. W. Elliott-Sutton et al, Henry McNeely 1	7500	3648
Gulf Prod. Co., Devonian Oil Co., A. Laird 4	9000	3598
Heep Oil Corp.-Houston Oil Co., Barber-Hughey 2-A	10,000	3550
Houston Oil Co.-H. R. Smith, N. & C. Bean 1-A	9000	3611
Humble O&R Co., R. H. Laird 2	9600	3604
DeGuerin 3	8000	3750
J. M. Peterson 9	5000	3630
Iowa Payne Oil Co., W. B. Walker (53-ac) 1	8500	3702
W. A. Jones et al, G. Davis 1	10,000	3649
H. P. Key et al, Joe A. King 1	8000	3648
Kingwood Oil Co., A. Godfrey 1	15,000	3571
Kirby Pet. Co., J. Reddic 1	3000	3740
Lewis Prod. Co. & Selby O&G Co., C. B. Pegues 2	6000	3691
C. H. Lyons et al, Dave Ladd (2½-ac) 1	7500	3662
Magnolia Pet. Co., W. B. Goyne 1	15,000	3618
C. C. Still 3	10,000	3636
Dick Wells 3	9000	3660
Mid-Kansas O&G Co., M. G. Barton 2	7500	3640
J. M. Blackman 1	7000	3652
Hughey-Ross 1	12,000	3525
H. S. Moss et al, F. Marshall 1	12,000	3589
Schubert Drlg. Co. & Yeager, W. Smith 1	7000	3600
Shell Pet. Corp., J. Douglas 1	9600	3595
W. W. Elder 3	7000	3609
W. W. Elder 5	8000	3556
T. H. Gill 1	8000	3624
Abe Holt 1	275	3740
Rosa Russell 2	7500	3754
Rosa Russell 4	12,000	3761
T. Wells 1	*	3030
Williams & Bonner 1	10,000	3564
The Texas Co., M. T. Cole 1	10,000	3562
W. Baxter 1	6500	3644
Turman Oil Co., Brightwell 3-A	7500	3617
Vise et al, C. Wells 1	9600	3668
Weaver-Crim Corp., Laird 3-B	7500	3600
LONGVIEW FIELD—		
Alco Royalty Corp., R. P. Johnson 1	2500	3621
Angeline-Burnett (Chicago Oil Corp.) Persons 1	7500	3481
Arkansas Fuel Oil Co., Lathrop 2-C	3500	3598
Barnsdall Oil Co., McGrede 4	6000	3611
F-H-E Oil Co., B. C. Christian 1	8000	3654
Gulf Prod. Co., Lacy-Snyder 1	7500	3492
Heyser & Heard (Karona Oil Co.) J. J. Tuttle 1	12,000	3557
Humble O&R Co., A. L. Hughes 1	7000	3638
Lucey Pet. Co., McHaney 1	10,000	3562
Meek & King, Harmony School 1	7000	3698
Navarro Oil Co., T. B. Harris 1	12,000	3554
R. W. Perkins et al, Walter McGrede 1	*	3703
Republic Prod. Co., Caddy Fisher 3	12,000	3457
Roeser-Pendleton, Inc., A. Christian 1	6500	3627
J. R. Smith et al, J. B. Doby 1	7500	3499
Stanolind-Simms Oil Co., J. C. Persons 1	12,000	3503
Sun Oil Co., G. W. Tate 1	10,000	3538
A. H. Tarver et al, M. Magrill 1	6000	3712
W. F. Turner et al, W. H. Ritchey 1	15,000	3616
Yount-Lee Oil Co., Stuckey 1	9500	3541
VAN FIELD—		
Humble O&R Co., R. S. Blake 12	9000	2887
Pure Oil Co., J. R. Shivers (46-ac) 2	1500	2862
H. P. Tunnell (135-ac) 2	7500	2976
Shell Pet. Corp., E. L. Fowler 10	6500	2942

WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
FISHER COUNTY—		
Texas Unity Oil Co., First Nat'l Bank 1	*	3250
JONES COUNTY—		
Jake Croft-Conner & Tidal Oil Co., W. D. Swann 1	135	2534
Andy Urban et al, Quinn-Riddle 1	30	1910
Sam C. Yingling et al, E. D. Coates 1	200	2534
PECOS COUNTY—		
Crosby Prod. & Roy. Co. et al, Tippett-Humble 1	135	1437
WARD COUNTY—		
E. E. "Buck" Sturm et al, Hill-Jones 1	120	2473
White et al, Owenby 1	60	2248

TEXAS PANHANDLE

Company, Well and Location	Initial Production Bbls.	Depth
GRAY COUNTY—		
Danciger O&R Co., Barrett 1-A	200	3350
Interstate Prod. Co., Frashier 1	¶51	2686
Wilcox O&G Co., Coombs-Worley 21	30	3069

NORTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
ARCHER COUNTY—		
Burns & Long, Turbeville 1	25	1475
WICHITA COUNTY—		
Lyon & Manion, McCall 1	*	951
John O'Neil et al, Woodruff 2	*	926
J. L. Swanner et al, Parker 3	15	1269
NORTH YOUNG COUNTY—		
Brazelton Bros. et al, Belknap 3	85	714
Wayne H. Hammon et al, Jeffery 1-B	440	751
Jeffery 2-B	460	755
Jeffery 3-B	200	750
Wheeler & Brashear, Jeffery 1	*	880

CENTRAL WEST TEXAS

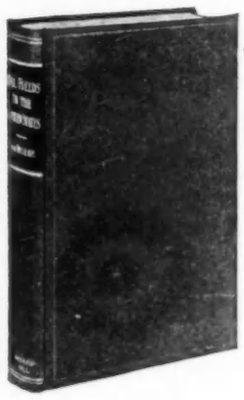
Company, Well and Location	Initial Production Bbls.	Depth
ERATH COUNTY—		
Payne et al, Martin 1	*	2935
KIMBLE COUNTY—		
R. Kamon & Mudge Oil Co., Hodges 1	*	2901
PALO PINTO COUNTY—		
Nelson Oil Synd., Owens 2	¶½	4094
Burton & McKee Oil Co., Allen 1	¶7	3022

SOUTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
DUVAL COUNTY—		
The Texas Co.'s Bishop Duval Land Company 2	300	2388
JIM HOGG COUNTY—		
Magnolia Pet. Co.'s Cuellar 1	*	4423
Randado Oil Co.'s Palacios 35	5	1307
MEDINA COUNTY—		
Eskridge's Irrigated Farms 1	*	902
NUECES COUNTY—		
Gulf Coast Oil Co.'s Harrell 1	150	4095
STARR COUNTY—		
Los Olmos Oil Co.'s Kelsey Bass 4	20	421
ZAPATA COUNTY—		
Benson Oil Co.'s S. Vela	*	....
E. C. Brogan's Montemayor 2	*	1505
Talmadge & Mackenzie's Trevino	*	519

NORTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
RICHLAND PARISH—		
Southern Carbon Co., Rosengrant & Ducomb 2, 19-17-6e	¶7¼	2450
Hope Prod. Co., Noble 3, 1-15-5e	¶37½	2450



Oil Fields in the United States

By **WALTER A. VER WIEBE**

Professor of Geology, University of Wichita

629 pages, 6 x 9, illustrated, $6.00

A complete and systematic presentation of the fundamental facts of oil accumulation in all fields of the United States. The book describes the structural elements which account for the presence of oil, the relation of structure to production and the peculiarities of the geological setting of all oil fields in the country.

~

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HOUSTON TEXAS

Permits Granted for New Wells

▼ ▼ ▼

CALIFORNIA

McKITTRICK — California Oil Producers, MM-1, 30-30-22.

MIDWAY—Fred D. Turner, Bull 1, 22-32-23.

ROUND MOUNTAIN—C. C. M. O. Co., No. 3, 6-28-29.

SAN LUIS OBISPO COUNTY—A. T. Jergins, Trust, No. 1, 27-31-12.

TULARE COUNTY—L. L. Ellis and M. U. Stanford, No. 1, 20-24-23.

VENTURA AVENUE—Associated Oil Co., V. L. W. 18, 26-3-23.

LOUISIANA

ACADIA PARISH—Port City Oil Co., Lake Charles, Jennings Heywood 13, 41-9s-2w, 2650 ft nw of se cor of n¼ of Frac. Sec. 41 and 675 ft of w line.

IBERIA PARISH—Jefferson Lake Oil Co., New Orleans, Peigneur 17, 21s-5e, 300 ft se of well No. 11 and 285 ft ne of well No. 5 in Lake Peigneur; 18, 21s-5e, 300 ft e of well No. 5.

SABINE PARISH — Magnolia Pet. Co., Shreveport, Peterson 1, 10-7n-11w, 200 ft s and 200 ft e of nw cor ne¼ of ne¼. T. T. Co., Shreveport, Landrum 1, 32-8n-11w, 330 ft s and 330 ft w of ne cor of se¼.

OKLAHOMA

LINCOLN COUNTY — Magnolia Pet. Co., Cash 1, sw ne sw 6-14-4e.

MARSHALL COUNTY—D. B. Taliaferro et al, Taliaferro 1, nw c se se nw, 34-5s-5e.

OKLAHOMA COUNTY—Slick Estate, Long 1, sw c nw se 15-11-3w.

STEPHENS COUNTY—H. G. Brown, Hightower 1, sw se ne 15-3s-5w.

WAGONER COUNTY — C. D. Bradley, Jacobs 2, ne c se nw 7-15-17e.

KANSAS

CHASE COUNTY—Kline et al, Stewart 1, c ne se 20-19-6e.

COWLEY COUNTY—Home Nat'l Gas Co., Corn 1, c se se 13-33-5e; Dunlap et al, Thompson 1, c nw nw 5-33-5e.

GREENWOOD COUNTY—Gore and Tidal Oil Co., Davis 1, nw c se 6-24-12e.

MARSHALL COUNTY—Blasey et al, Kunkle 1, ne se nw 13-2s-6e.

McPHERSON COUNTY — Ritz O&G and Shell, Koehn 1, se c ne 16-21-3w; McPherson O&G Devel. Co. and Shell, Decker 4, c ne se 11-19-2w.

McPherson O&G Devel. and Shell, Hill 2, c sw ne 10-19-2w.

SEDGWICK COUNTY—Scroggin et al, Wall 1, se sw ne 4-28-1e.

TEXAS

BEE COUNTY—Rowan & Hope & Cosden Oil Co., San Antonio, J. M. Freeland, 350, 2, Jno. Pace sur, 1000 ft from e and 660 ft from s line.

BROWN COUNTY—T. Z. Van Bebber & Troutt, Brownwood, L. W. McDonald, 100, 1, C. J. Carrier sur, 1300 ft from e and 1200 ft from s line.

CAMP COUNTY—Gulf Coast Oil Co., Houston, McCaslin, 205½, 1, M. Hays sur, 1334 ft from e and 1000 ft from s line.

CARSON COUNTY — Texas Co., Wichita Falls, J. J. Crutchfield, 480, 1, S 29, B 4, I&GN sur, 1320 ft from s and 1331 ft from e line section.

COLEMAN COUNTY — Breckenridge Oil Co., Coleman, F. Golson, 36, 7, I. Harris sur, 105 ft from n and 423 ft from w line.

COOKE COUNTY—W. F. Russell, Gainesville, O. O. Sitzes, 45, 1, J. T. Strickland sur, 750 ft from n and 150 ft from w line.

EASTLAND COUNTY — Mook-Texas Oil Co., Fort Forth, M. Williamson, 257, 1, W. Van Norman sur, 1596 ft from n and 301 ft from e line.

GREGG COUNTY—Gulf Prod. Co., Houston, L. D. Crim, 70, 3, W. P. Chisum sur, 273 ft from n and 150 ft from w line. F. Birdsong, 98, 5, W. P. Chisum sur, 1276 ft from n and 1008 ft from ne line. A. Spear, 285, 4, M. Van Winkle sur, 781 ft from s and 330 ft from w line. B. Watson, 78, 4, J. S. Caruthers sur, 1158 ft from w and 1637 ft from s line. Badgett & Falvey, Longview, J. W. Falvey, 58½, 1, M. Mann sur, 150 ft from s and w lines. W. R. Jones, Longview, Satterwhite, 13½, 1, Irvin sur, 166 ft from w and 272 ft from s line. Stanolind O&G Co., Longview, M. B. Harley, 60, 1, G. W. Hooper sur, 250 ft from n and e lines. G. F. Meadows, 50, 1, D. Sanchez sur, 735 ft from w and 250 ft from s line. W. F. Wilhite, 29½, 1, G. W. Hooper sur, 298 ft from w and 250 ft from n line; 2, 200 ft from n and 300 ft from s line. Whittle & Cavanaugh, Houston, W. Smith, 7, 1B, J. S. Caruthers sur, 150 ft from e and 238 ft from s line; 5, 1A, J. S. Caruthers sur, 150 ft from s and w lines. Smith Oils Inc., Longview, K. Moseley, 15½, 1, Jno. Ruddle sur, 150 ft from s and w lines. Corrected location. Houston Oil Co., Houston, M. B. Hughey, A, 44, A1, P. W. Warraner sur, 464 ft from n and 346 ft from w line. Fain-McGaha Oil Corp., Wichita Falls, C. C. Clements, 50, 1, C. Rhode sur, 215 ft from w and 990 ft from s line. East Texas Refg. Co., Dallas, W. Christian, 27, 1, G. W. Hooper sur, 364 ft from w and 248 ft from s line. H. W. Foster, Longview, Geo. Jones, 10, 1, G. W. Hooper sur, 170 ft from s and w lines. Kidney & Lester, Fort Worth, L. McGrede, 7, 1, D. Sanchez sur, center. Oriental Oil Co., Dallas, L. Alexander, 14½, 2, M. Van Winkle sur, 504 ft from w and 156 ft from s line. Byrd-Frost Inc., Longview, J. B. Watson, 9, 1, J. S. Caruthers sur, 150 ft from n and w lines. Meridian Pet. Corp., Tulsa, T. W. Lee, 53, 1, Clark-Lewis sur, 291 ft from e and 150 ft from s line. Superior Oil Co., Dallas, L. C. Ingram, 160, 1, W. E. Pasteur sur, 167 ft from s and 200 ft from e line. S. A. Guiberson, Jr., Dallas, Stuckey, 40, 1, G. W. Hooper sur, 330 ft from w and 300 ft from s line. Prairie O&G Co., Ranger, W. B. Walker, 80, 1, E. H. Grisham sur, 250 ft from w and 450 ft from s line. Hal Hughes, Tyler, T. P. Lee, 15, 1, W. W. Avery sur, 184 ft from n and 295 ft from w line. Addie Coleman et al, Longview, E. Rice, 1, 1, M. Van Winkle sur, 125 ft from n and 88 ft from w line. Grisham-Hunter Corp., Abilene, T&P Ry, 14, 1B, Gladewater sur, 50 ft from s and w line, Bk 49. T&P, 14, 1A, Gladewater sur, 55 ft from n and 20 ft from w line, Bk. 72. Sun Oil Co., Dallas, C. Loyd, 133, 2, W. P. Chisum sur, 200 ft from e and 765 ft from s line. Barnsdall Oil Co., Tulsa, J. G. McGrede, 109, 5, D. Sanchez sur, 1416 ft from s and 150 ft from e line. Howard Pet. Corp., Tulsa, S. K. Thrasher, 40, 2, G. W. Hooper sur, 150 ft from n and e lines. Shell Pet. Corp., Dallas, M. H. Bivins, 34, 2, J. S. Caruthers sur, 150 ft from n and 420 ft from w line. Vacuum Oil Co., Houston, V. L. Goolsby, 75½, 1, G. R. Rains sur, 330 ft from n and e lines. H. W. Foster, Longview, G. Jones, 10, 1, G. W. Hooper sur, 175 ft from s and w lines. Pilot Oil Co., Dallas, S. C. Fishburn, 141, 1, F. W. Johnson sur, 450 ft from n and e lines. Texas Co., Shreveport, G. W. Clark, 60, 1, G. A. Thomason sur, 330 ft from n and w lines. E. M. Wood, 90, 1, M. Dillard sur, 150 ft from n and 472 ft from e line. H. T. Elder, 53½, 1, M. Scott sur, 485 ft from n and 333 ft from w line. S. J. Boles, 25, 1, Wm. Carlton sur, 150 ft from w and 320 ft from s line. Pilot Oil Co., Dallas, W. Smith, 25½, 1, Caruthers sur, 150 ft from n and e lines. Mid-Kansas O&G Co., Shreveport, B. Moore, 90, 1, J. Moseley sur, 150 ft from s and e lines. J. R. Beall, 80½, 4, W. P. Chisum sur, 170 ft from n and 200 ft from e line; 2, 150 ft from n and 200 ft from w line.

GRIMES COUNTY—Rianjo Pet. Co., Dallas, J. E. Cuthrell, 110, 4, P. B. O'Connor sur, 974 ft from n and 1831 ft from w line.

GUADALUPE COUNTY—H. J. Bruner, San Antonio, S. H. Sherrill, 55, 2, Geo. Allen sur, 150 ft from n and w lines.

HARDIN COUNTY—C. E. Brown, Silsbee, Shannon, 10, 1, O'Neil sur, 165 ft from n and 350 ft from w line.

HARRISON COUNTY—J. M. Gholson, Ranger, H. H. Key, 160, 1, T. Toby sur, 1500 ft from e and 1166 ft from s line.

HOUSTON COUNTY — Tom Ramsland, et al, Dallas, J. R. Pennington, 186, 1, R. Harza Sec. 1, 228 ft from n and 591 ft from w line.

IRION COUNTY — Straughan & Adkins Bros., Mertzon, J. A. Lee, 144, 1, No. 729 sur, 420 ft from n and 1080 ft from w line.

JIM WELLS COUNTY — Gulf Prod. Co., Houston, R. Shaeffer, 40½, 5, SA&MG sur, 360 vs from s and e lines.

LOVING COUNTY—P. L. Hoffman, Cisco, Wheat-Ramsey, 160, 3, S 83, B 1, W&NW sur, 990 ft from e and 2970 ft from s line.

LAVACA COUNTY—F. P. Zoch, San Antonio, G. W. Debord, 250, 1, T. G. Weston sur, 950 ft from n and 150 ft from w line.

MILAM COUNTY—Wilson-Broach Co., Beaumont, E. L. White, 75, 1, S. Frost sur, 250 ft from s and e lines.

PANOLA COUNTY—Jas. L. Nelson, Wichita Falls, J. W. Williams, 67, 1, Jas. Hanks sur, 500 ft from s and e lines.

PECOS COUNTY — Cardinal Oil Co., San Angelo, J. H. Tippett, 160, 9, S 40, B 194, GC&SF sur, 150 ft w of center of e line.

RUSK COUNTY—Bridwell Oil Co., Wichita Falls, S. Stone, 14, 1, M. J. Pru sur, 262 ft from w and 296 ft from s line. Everts Drlg. Co., Dallas, B. E. Strong, 50, 1, T. Walling sur, 150 ft from s and e lines. A. W. Phillips, Tyler, T. J. Pinkston, 10, 1, Cordova sur, 150 ft from s and e lines. E. L. Thompson, San Antonio, J. Dickson, 15½, 1, M. Sogwell sur, 236 ft from n and w lines. Shaw Oil Co., Wichita Falls, L. Toliver, 10, 2, J. Ximinez sur, 150 ft from n and 176 ft from e line. Heep Oil Corp., Houston, A. Givens, 12½, 1, R. W. Smith sur, 152 ft from n and 163 ft from e line. Luling O&G Co., San Antonio, W. P. Brightwell, B, 2½, 1, R. E. Winn sur, south corner. J. E. Mabee Co., Tulsa, J. B. Wilson, 31, 1, M. J. Pru sur, 345 ft from n and 290 ft from w line. Lucey Pet. Co., Longview, B. F. Maxwell, 127, 2, E. Collard sur, 200 ft from n and 150 ft from w line. L. A. Warren, Dallas, B. F. Hindman, 4½, 1, R. W. Smith sur, 150 ft from s and w line. Golding & Murchison Oil Co., Dallas, Pinkston, 86½, 1, M. J. Pru sur, 330 ft from n and 211 ft from w line. E. E. Thrash, 31, 1, F. Cordova sur, 150 ft from s and e lines. A. B. Blackwell, 80, 1, M. J. Pru sur, 250 ft from n and 307 ft from e line. J. Lee, 45½, 1, Geo. Berry sur, 330 ft from n and e lines. Danciger O&R Co., Fort Worth, Wm. Jernigan, 40, 1, W. W. Simms, 310 ft from e and 150 ft from s line. East Shore Oil Co., Henderson, B. Fox, 40, 1, A. McCormack sur, 150 ft from w and 1360 ft from s line. J. E. Mabee Co., Tulsa, J. B. Wilson, 31, 2, M. J.

(Continued on page 79)

For Tabulation and Comparison See Market Section

ABBREVIATIONS

NOTE—The following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in.—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wost—waiting on standard rig.

Wildcat Reports From All Sections

▼ ▼ ▼

KANSAS

MORTON COUNTY — Hydraulic Oil Co., State land 1, nw se, 22-34-43w, sd 3460 ft.

COWLEY COUNTY—Fisher et al, Hunt 1, c sw se se 11-34-3e, ru and sd.

SUMNER COUNTY—Spencer et al, Porter 1, ne sw se se 11-34-3 east, dr 1050 ft. Otstot et al, Warlow 2, c se nw se, 22-33-3w, dr 3425 ft.

COWLEY COUNTY—Roth & Farrout, Reidy 1, c sw nw ne, 8-32-4e, td 1040 ft, sd.

HARPER COUNTY—Beeler et al, Bear 1, c ne 21-31-6w, td 1830 ft, sd.

FORD COUNTY—Carter et al, Community-Everett 18, c ne 22-29-21w (6000 ft test) dr 4774 ft.

SEDGWICK COUNTY — Buck et al, McNanaman 1, c ne nw nw 2-20-1e, 10-in 2301 ft td 2440 ft co.

FORD COUNTY—Swain et al, Heuthorn 1, c nw 21-25-24w, 5-in 4645 ft sd 5105 ft.

STAFFORD COUNTY—Rosenthal, Stanolind & Amerada, Gray 1, c ne 11-34-13w, dr 2820 ft.

MARION COUNTY—Maidwell, La Master 1, nw c 31-22-4e, td 650 ft sd.

COFFEY COUNTY—Hegberg et al, Kroft 1, se sw se 30-22-14e, 10-in 818 ft sd 1565 ft.

BARTON COUNTY—McCool et al, Isern 1, c sw se ne 12-20-11w, td 1600 ft sd.

RUSH COUNTY—Dewey & Mitchell, Greenwalt 1, c sw 17-19-16w, dr 3505 ft hfw.

BARTON COUNTY—Skelton Oil, Ott 1, c se se 16-19-14w, td 2420 ft ur 8-in.

RICE COUNTY—Solar Oil, Zink 1, se nw 3-19-10w, (3400 ft sil. 1 test) dr 1820 ft. Deitrick & Langston, Purcell 1, nw c 33-19-9w, td 1574 ft dr 2080 ft.

BARTON COUNTY—Syndicate Oil, Boertz 1, c nw se ne 13-18-12w, td 2450 ft sd.

RICE COUNTY — Allison & Fitzwilliams, Blake 1, ne nw 9-18-10w, dr 1100 ft. McFadden & Shell, Jennings 1, c sw ne nw 29-18-6w, pb to 1158 ft shot 1128-1148 ft 33,600 gas.

CHASE COUNTY—Borden et al, Atkinson 1, nw se 18-18-7e, machine.

MORRIS COUNTY—Hankenson et al, Cessnum 1, sw se 24-16-9e, 2475-78 ft hfw ur 6-in.

ELLSWORTH COUNTY — Alladin et al, Stoddenberg 1, c sw 22-15-10w, dr 2775 ft.

MORRIS COUNTY—Hankenson et al, Cessnum 1, sw se 24-16-9e, 2475-78 ft hfw ur 6-in.

FRANKLIN COUNTY—Fields et al, Usher 1, se c 35-16-17e, sd 400 ft.

ELLSWORTH COUNTY—Milton et al, Kaster 1, se ne, top Oswald 2819 ft hfw 2985 ft td 3150 ft csg trbl. Hershey et al, Schaltz 1, c ne 9-14-8w, td 2930 ft ur 8-in.

OSAGE COUNTY—Riggs-Smith, Wood 1, c se nw 31-14-15e, 10-in 1050 ft sd.

RUSSELL COUNTY—Austin Drlg. Co., Rockefeller 1, se c 6-13-12w, 3320-25 ft hfw td 3374 ft sd.

SALINE COUNTY—Twin Mounds Oil Co., Weis 1, c w½ ne nw 30-13-4w (owd) 19-in 1010 ft sd 2710 ft.

DICKINSON COUNTY—Severs et al, Livinwood 1, ne sw 13-13-2e, sd 3850 ft.

RUSSELL COUNTY—Gilbreath et al, Bratton 1, c ne 33-11-13w, td 3450 ft csg trbl.

GRAHAM COUNTY — Schleimeyer et al, Clark 1, c sw ne ne 11-9-25w, 6-in 4533 ft dr 4556 ft.

CLAY COUNTY—Nebraska Oil, Trivier 1, sw c 19-8-9e, sd 2700 ft.

SHERIDAN COUNTY — Flo et al, Shoemaker 1, se sw sw 27-27-26w, 10-in 1178 ft sd 2445 ft.

WASHINGTON COUNTY—Sincox, Penwell 1, nw se nw 16-3-3e, sd 1720 ft.

RAWLINS COUNTY—Danciger et al Unknown 1, sw c 3-2-35w, 6-in 2995 ft dr 3468 ft.

ABBREVIATIONS

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Alabama Campaign

Courtland, Ala.—Jaggers Petroleum Company Baskette 1, a wildcat test, is drilling at 1100 feet after having passed through five sands. Three of these sands contained good shows and present very favorable prospects for the opening of a new field. This test is located in NE SE SW Section 15-4s-7, West Lawrence County. This company has a block of 80,000 acres including the Wheeler ranch of 17,000 acres. Locations have been made for 12 more wells in Township 4S and one location has been made seven miles south in Township 5S. The operators have indicated that all 14 of the wells will be drilled before the drilling campaign will be credited as a failure.

SOUTH TEXAS

ATASCOSA COUNTY—George Keith, Jr.'s, Mrs. G. M. Martin, 3 mi s Amphion, dr 1735 ft.

BASTROP COUNTY—Schimmel and Batts' (Texas Pet. Co.) Ferguson 2, J. Doyle sur, new serpentine pool, spudded. Smith & Bruns' Marburger 1, King and Millett sur, dr below 300 ft.

BEE COUNTY—Alexander et al's McFall 1, 3 mi s Skidmore, washed to bottom of hole at 1405 ft, prep to re-dr. Cosden Oil Co. & Rowan and Tong's Freeland 2, John Pace sur, ¼ mi w Cosden Pool, prep to spud in. J. M. Davis et al's Geo. Ray 1, J. H. Williamson sur, 1 mi sw Pettus townsite, dr in, sand 3920-25 ft, showed for production. Grebin and Wood's Riggs 1, James Nowland sur, 6½ mi w Skidmore, 2 mi from Live Oak line, dr 2800 ft. J. S. Mauldin's Mauldin 1, sw corner Pettus townsite, G. A. Kerr sur, running casing to 3847 ft, td 3859 ft. United Prod. Co.'s Ray 37, Willis A. Moore sur, one mile e and slightly s Ray-McKinney pool, 1500 ft nw Ray 11 gasser, dr below 4500 ft.

BEXAR COUNTY — J. Morgan Russell's Price-Story, A. Navarro sur, 10 mi s San Antonio, on Somerset road, fsh 1330 ft. Weilbacher & Brock's Ernest 1, J. Christopher sur, 2 mi n Somerset, 925 ft.

BLANCO COUNTY—Hardy Sitton's (formerly Lysles & Adams) Standeford 1, James Standeford sur No. 155, 3 1/3 mi nw Blanco City, sd 970 ft; McMillen 1, Benjamin Williams sur No. 125, 2 mi w Blanco City, sd 686 ft. Meeks et al's Walker 1, ne cor Noel Nixon sur No. 23, 4 mi n Blanco City, fsh 1078 ft. Forest Oil Co.'s (Rosenfield et al) Hohenberger 1, sur 94, sd 712 ft.

BROOKS COUNTY — Ike Howeth et al's Singer 1, sur 436, 400 ft e of Humble Singer 1, dr sticky shale at 1900 ft, showed mud on test of sand at 1805-13 ft. O. C. Wood's J. G. Ramos 1, tract 10, blk 3, Amos Dinn sub of Lastena grant, sd 225 ft.

CALDWELL COUNTY—Rayor et al's Dunlop 1, Solomon Sear sur, near Luling, show oil in Edwards, total depth 2515 ft, casing set 2145 ft, top of Edwards 2511 ft, plugged back for test. Mills and Chapman's McMahon 1, Pinchback sur, 6 mi se Lockhart, no report, 2442 ft at last report. Ralph Ogden's O. S. Alexander 1, S. Spiller sur, 8 mi se Lockhart, sd 2338 ft. Joe Brunner's Malone 1, A. Floyd sur, s end of Salt Flat field, dr abt 800 ft.

COMAL COUNTY—Caldwell and Lanier's T. J. Byler 1, 10 mi s Blanco City, HE&WT Ry. sur No. S-894, n end of county, underreaming to set 8¼ in csg at 694 ft.

DE WITT COUNTY—Gibson and Strum's Clark 1, Dolores Alderete sur, 2 mi s Yorktown, ru and sd.

DUVAL COUNTY — John F. Camp & Southern Crude Oil Pur. Co.'s Hubbard 1, 2½ mi se S&O pool, sec 75, ru. Hun.ble O&R Co.'s Kohler 50, sur 164, Kohler pool, dr 6584 ft. S. J. Carpenter's J. Benavides 1, sec 1, blk 38, Mesquite sur, test sw, total depth 1690 ft, dr deeper. O'Byrne et al's Weil Bros. 1, BS&F sur No. 568, 7 mi sw S&O pool, testing sand 2800 ft. Coffee et al's Jose Garza 1, center sur 49, Garza Irrigation Lands Co., changing rig, total depth 900 ft. The Texas Co.'s Bishop Duval Land Co. 2, sur 135, S&O pool, completed for 300 bbls initial, sand 2355-88 ft, 6⅝ in csg set 2355 ft.

GOLIAD COUNTY—Nuehaus Drlg. Co.'s Pettus 1, se cor of 3418-acre tract in Maria de Jesus Ybarbo sur, resume dr, 3853 ft, this well was abandoned and now being drilled again to Pettus sand.

GUADALUPE COUNTY—Adams, Lysles, North and Walton's A. Zobrowoski 1, J. D. Clements sur, ½ mi n original Zobrowoski test, re-dr after setting 8¼ in csg at 2125 ft. Harry Bruner's Jim Sherrill 2, Goe Allen League, near Staples, to spud. C. McGarity et al's August Wesch 1, H. M. Thompson sur, 2 mi n Marion, dr around 1000 ft. Linne et al's J. E. Linne 1, V. Cortario sur, 8 mi sw Seguin, 5 mi s Marion, dk.

HIDALGO COUNTY—Dayle L. Smith Oil Co.'s Fernandez 5, 21 mi w McAllen, sd 4026 ft.

JIM HOGG COUNTY—D. C. DeWitt's T. Gomez 1, sec 12, sd 400 ft, clearing titles. Magnolia Pet. Co.'s Y. V. Cuellar 1, El Peyote Grant, blk 92, W. A. Dannelly sub, sur 575, abn 4423 ft. Cole Pet. Co.'s (P&M Oil Co.) Palacios 1, sur 231, blk 14, 3 mi s s and 10 degrees e Randado field, sd 1360 ft, to re-dr. Randado Oil Corp.'s Palacios 35, blk 2, sur 291, Randado field, completed, 5 bbls oil, considerable sw, sand 1301-7 ft, 6⅝ in csg set 1301 ft.

JIM WELLS COUNTY—Gulf Prod. Co.'s Schaffer 4, dr 2235 ft.

KENDALL COUNTY—Borget et al's Willie Haag 1, W. Avery sur, dr 1175 ft after completing cementing of cave around 900 ft. Dixon Oil Co.'s Behr 1, Jessie Wilson sur, 3 mi s Sisterdale, dr 2690 ft. F. S. Dibble's Ellebract 1, TW&NG sur No. 77, sd 50 ft. Hardy Sitton's W. B. Garvin 1, D. L. Richardson sur No. 7, 1 mi ne Kendalie, 1125 ft, fsh.

KERR COUNTY—Herbert Oil Co.'s (Herbert & Halbert) J. D. Witt 1, W. H. Hamilton sur, sec 1923, Camp Verde district, sd 100 ft. Col. B. M. Hatridge's Duderstadt 1, (Crawford & Terrell) Reservation-Harper district, prep to spud; W. R. Rischworth 1 (Neely & Halbert) sec 1459, 2 mi se Center Point, sd 117 ft. Evans and Gant's Jeff Love 1 (discovery well), total depth 3391 ft, prep to deepen, well has been producing a small amount of oil and considerable salt water from this depth since the early part of the year. Evans and Sprinkle's Jeff Love 2, sw cor sec 1592, ½ mi se discovery, dr 225 ft. Evans and Gant's Seker and Mears 1, CCSD&RGNR Ry. sur, 2 mi ne discovery, set 3240 ft 6⅝ in csg, still in sand topped 3165 ft. Chester A. Martin's J. E. Young 1, A. E. Bruce sur, ne of discovery, re-dr after setting 650 ft of 12½-inch, 430 ft 15½-inch.

KLEBERG COUNTY—Barbee and Hunter's J. D. Finnegan 1, El Pasadizo sur, 7 mi s Kingsville, cored saturated sand at 2251-57 ft, now dr 2730 ft.

LA SALLE COUNTY — Fred W. Volz's Coleman 1, blk 15, sur 514, sd 40 ft.

LIVE OAK COUNTY—Houston Oil Co.'s

Cartwright 23, Mt. Lucas field, Sandman sur, swabbing, sand 3554-65 ft, standing 1700 ft in oil, show 130 lbs pressure on csg, will not flow, may install gas lift or put on pump. Coquat et al's H. Hewitt 1, Thomas Adams sur, sw one-fourth sec 5, set 54 ft of 10-inch csg, now sd.

McMULLEN COUNTY — Brodie, Shearer and Emerich's Shiner 1, 12 mi se Tilden, rd dr 1850 ft.

MEDINA COUNTY—F. E. Tegler's J. P. Nixon 6-A, Ina field, sur No. 14, blk 2, dr 710 ft. Sun Flower Oil Co.'s Mofield 1, sur 532, 3 mi w Ina field, dr 2005 ft. Yancey Dev. Co.'s Faseler 1, sur 801, 1¼ mi n Yancey, fsh 1608 ft.

NUECES COUNTY—Gulf Coast Oil Co.'s Harrell 1, GC&SF sur, sec 311, blk 32, ¾ mi n Sedwick well, n outpost well, completed 150 bbls, kill and swab again, casing set 4087 ft, total depth 4095 ft. Calallen Oil and Gas Co.'s Frank C. Allen 2, near Calallen, sd 2108 ft. Southern Crude Oil Purchasing Co.'s Charles E. Stratton 1, P. Anchow sur, southwest part of county, rigged up to spud, now dr water well. L. L. Smith, Inc.'s H. B. Hunter 1, in H. B. Shepherd sur, Rincon del Osa Grant, ¾ mi e main field, plugged back to 3370 ft from 5388 ft, 6⅝ inch csg set 3357 ft, wait on cement. Houston Oil Co.'s Harrell 2, John E. Dunn sur 312, se cor of sur, s mi nw main field, blew in, ran wild in sand 2725-40 ft for nearly one month, now mudded in; Morgan 2, cored water sand 5527-37 ft, dr deeper.

REAL COUNTY — Gand and Kilgore and Eastland Oil Co.'s Dan Auld 1, CCSD&RGNR Ry sur, sec 23, 3 mi sw Love well, fish for bailer, well has been gassing from sand at 3795-4007 ft. Evans and Sprinkle et al's Haby 1, AB&M sur, 7 mi sw Love well, sec 175, setting 10-inch csg at 2165 ft.

REFUGIO COUNTY—Humble O&R Co.'s O'Conner 1, near Victoria line, lcn. Blanco Creek Oil Co.'s Dammann 1, nw cor sec 16, Bonnie View ranch, 8 mi s and e of Refugio field, prep to core again, sand 4159-65 ft, showed oil.

SAN PATRICIO COUNTY—Saxet Oil Co.'s White Pt. Dev. Co. 4, White Point field, cut and pull casing at 3215 ft to abn. United Prod. Co.'s Mayfield 1, White Point field, dr 658 ft after setting 492 ft of surface csg. Jacob, Buzzini & Pickett's Baldwin 1, R. O'Neill sur, sd 4020 ft; Baldwin 2, Aransas gas field, mov on.

STARR COUNTY—B. B. Tips' Frank Doyno 1, Porcion 81, lower tract No. 4, sd 332 ft. Seabury O&G Co.'s Seabury et al 1, Share 5, Porcion 75, Jurisdiction of Camargo, sd 411 ft. Los Olmos Oil Co.'s Kelsey Bass 4, blk 7, sub of Porcion 75-76-77, Jurisdiction of Camargo, standing 200 ft in oil from sand at 407-21 ft, estimated at 20 bbls on pump; Kelsey Bass 5, blk 7, sub of Porcion 75-76-77, Jurisdiction of Camargo, 8 mi n Rio Grande City, dr 300 ft.

VICTORIA COUNTY—Houston Oil Co.'s Konrad 1, Beck Salt Dome, T&NO sur, n of Victoria, dr 2727 in shale. Westheimer et al and Simpson-Fell Oil Co.'s Levi 1, 6 mi ne Slick well, 10 mi s Victoria, dr 4590 ft. T. B. Slick Estate's McFadden 1, J. Barian sur, 3 mi ne McFadden field, liner broke second time after developing 1550 lbs pressure, now resetting to complete again, sand 3521-2 ft, show 40,000,000 cubic ft gas. United Prod. Co.'s McFadden 4-A, 3000 ft s discovery well, dr 3284 ft. The Texas Co.'s McFadden 3, ne of No. 2, prep to spud.

WEBB COUNTY—Eugene Garner, Jr.'s A. S. Billings 1, sur 71, mov on dk. Cole Pet. Co.'s (Carson) Benavides 2 (4) 12 mi e Laredo, sur 1601, dr 2600 ft. Geo. S. Marshall's Benavides 1, Carolina-Texas district, sur 683, lcn. Southern Gas Utilities Co., E. A. Sterling & Co. (Killam-Carson) de la Garza 1, Carolina-Texas field, blk 13, sur 336, cutting liner at 2083 ft. SR&C Oil Corp. & F. P. Zock's J. V. Cuellar 1, 2 mi w Bruni, Share 2 Cuelar Grant, Cole district, set 10-inch csg at 30 ft, wait on cement.

WILLIAMSON COUNTY—Bilbrey-Zizinia's Taylor Country Club 1, dr in Edwards at 1395 ft. Citizens Oil and Dev. Co.'s Jarrell, Henry Cook sur, 18 mi se Taylor, dr 1000 ft. Wilburn et al's Hurts 1, P. Coursey sur, sd 1327 ft. Wilson et al's Walker 1, sd 2260 ft.

WILSON COUNTY—August Blume's Nickelson, C. Diaz sur, 2½ mi s Floresville, dr 930 ft.

ZAPATA COUNTY—Benson Oil Co.'s S. Vela 1, blk 12, sur 259, exact depth not available. E. C. Brogan's Montemayor 2, Muckelroy pool, blk 11, sur 64, abn 1505 ft. Pray and Chamberlain's (Whicker) Garza 5, blk 1, Zorro sub, Comitas grant, dr 250 ft. W. T. Bill Henry's Gopher Trust Estate 1, blk 10, sur 4, Fullerton sub of Share 8, Borrego Grant, sd 1355 ft. National Oil Co. of Texas' Luther et al 1, blk 97, Da Pron sub, ne ¼ Porcion 6, sd 590 ft. Penny Prod. Co.'s Juan V. Cuellar et al 1, sur 2, blk 1, Pappas sub, Porcion 33 and 34, sd 2055 ft. F. A. Talmadge and G. Mackenzie's G. F. Trevino 1, blk 6, sur 4, Marts and Beavens sub of Porcion 2 and 3, temp abn 519 ft. C. J. Webster Oil and Gas Co.'s R. Benavides 1, blk 2, sur 12, dr 90 ft, 10-in csg set at 40 ft. T. H. Ward's Guadalupe Uribe 1, blk 8, sub of Share 7, Partition 6, Trinidad Uribe Partition of Juan V. Borrego Grant, rigged up and standing.

WEST TEXAS

Completions

CRANE COUNTY—

Gulf Prod. Co.-Cranfill Bros. Oil Co., J. B. Tubb 1	110	5336

CRANE COUNTY—H. H. Sides et al's B. P. Nolen 1, elev 2355 ft, top salt 760 ft, dr 1710 ft.

ECTOR COUNTY—H. F. Wurtz et al's E. A. Ibbetson 1, elev 2840 ft, top salt 865 ft, sd 3250 ft.

EL PASO COUNTY—Tri-State Oil Co.'s Bobadella 1, trace gas in sand 795 ft, dr 825 ft.

FISHER COUNTY—Stanolind O&G Co.'s Steele 2, elev 1873 ft, changing to std rig with show oil in lime 3188-90 ft. The Texas Co.'s J. A. Jean 1, fsh 2850 ft.

GAINES COUNTY—Landreth Prod. Corp.'s Nick Alley 1, elev 3458 ft, top anhydrite 1610 ft, top salt 1675 ft, fsh bailer 3815 ft. Texas Consolidated Oil Co. & T. P. Coal & Oil Co.'s E. H. Jones 1, sd in anhydrite and salt 4215 ft.

GARZA COUNTY—Garza County Dev. Co. (Penny & Porsey's) Justice 1, elev 2266 ft, top salt 550 ft, top lime 1825 ft, dr 3145 ft.

HOWARD COUNTY—Conoco & Group One Oil Corp.'s E. E. Brindley 1, elev 2530 ft, top salt 1170 ft, top lime 3077 ft, pb from 3590 to 3200 ft and shot 90 qts at 3149-3185 ft, and est. 50 bbl pumper.

HUDSPETH COUNTY—H. H. Henshaw et al's G. W. Love 1, dr 498 ft. R. G. Patillo & Ed. Welch's K. S. Briggs 1, elev 4017 ft, sd 673 ft.

IRION COUNTY—Benedum-Trees & Davis' Sugg 1, dr 1480 ft. Denny & Andrews et al's Tankersley 1-A, machine. Perry Fox et al's H. Horney 1, elev 2232 ft, sd 1503 ft. Stanolind O&G Co.'s W. H. Williams 1, elev 2544 ft, sd 5950 ft. Straughan & Adkins Bros. et al's W. Lee 1, lcn.

JONES COUNTY — J. C. Abers & L. D. Pruitt's L. L. Burton 1, sd 1140 ft. Moutray Oil Co.'s Hoyt 2, testing and est 100 bbls daily at 1966-72 ft. Shaheen Oil Co. & Duffey's King 2, elev 1653 ft, lcn. Tex-Mex Oil Co. & Eastland Oil Co.'s Brewer 1, sd 2492 ft. Union Oil Co.'s King 1, elev 1654 ft, dr 1440 ft. Young & McNeil's L. R. Cade 1, elev 1922 ft, sd 2590 ft.

LOVING COUNTY—Adams et al's Louis Wichmann 1, elev 2733 ft, top salt 772 ft, dr 1785 ft. The California Co.'s J. G. Allen 3, elev 2741 ft, top salt 815 ft, dr 4240 ft; Allen 4, pb from 4353 to 4351 ft and swab 124 bbls oil 13 hrs. Carl Cromwell & Atlantic's Russell 2, rig. Erwin & Mohres Dev. Co.'s Lillie Thorpe 1, sd 810 ft. Folbre & Evans' D. P. Dean 1, sd 1465 ft. Grisham-Hunter Corp.'s Dean 1, elev 2655 ft, dr 3480 ft. Henshaw et al's Reagan 2, rig. Pete Hoffman et al's Ramsey 2, elev 2678 ft, top salt 775 ft, cem 5 3/16-in cas 4034 ft; Ramsey 3, dr 1470 ft. Lewis & Slagel Drlg. Co.'s Cartwright & Henderson 1, sd 3182 ft. H. W. Martin et al's Wheat-Ramsey 2, dr 1130 ft. Fred H. Meyer et al's W. B. Lind 1, rig. Richmond Drlg. Co.'s Wheat-Ramsey 1, elev 2678 ft, top salt 765 ft, show oil 4224 ft, dr 4240 ft. W. A. Sudderth & James' Capitola Pool 1, dr 430 ft. F. S. Tennant et al's Roy Martin 1, sd 1400 ft.

MENARD COUNTY—L. G. Priest et al's Sorrells 1, elev 2279 ft, co 2855 ft.

PECOS COUNTY—Penn Oil Co. & Honolulu Oil Co.'s R. D. Webb 1, sd 1778 ft. W. F. Whittaker & Calloway's Devlin 1, elev 2706 ft, sd 455 ft.

REEVES COUNTY — Humble O&R Co.'s Balmorlea 1, dr 1335 ft. Lee O. White et al's Mrs. Hershensen 1, elev 3244 ft, top salt 2670 ft, dr 4715 ft.

RUNNELS COUNTY—Chas. Dutton et al's Dean 1, elev 1650 ft, co 2335 ft.

SCHLEICHER COUNTY—Eastland Oil Co. Unit Plan's Tisdale 1, elev 2295 ft, fsh 2523 ft. J. D. Wesner et al's Ratcliff 1, elev 2408 ft, top Pennsylvanian pay 4000-4006 ft, sd after swabbing 4 bbls oil and 30 bbls water after standing 96 hours.

SCURRY COUNTY — R. B. Pender O&G Co.'s Davis 1, elev 2208 ft, top salt 445 ft, dr 5045 ft. Seifert & Dibble's Blackman 1, top salt 720 ft, sd 3390 ft. Simons & Brock's F. Kruse 1, top salt 740 ft, sd 1260 ft.

TERRELL COUNTY—Leonard Jones et al's Peckenham 1, elev 2587 ft, dr 2190 ft.

UPTON COUNTY—Duffey et al's McClintic 5, rig. Mintex Oil Co. & Harry Baldwin's Lane 1, elev 2743 ft, top salt 738 ft, sd 2130 ft. Porter Rankin et al's Cordova 1, sp.

WARD COUNTY—Beckley et al's Johnson 1, show oil 2195-2200 ft, dr 2220 ft. Bell &

▼ ▼ PERMITS ▼ ▼

(Continued from page 77)

Pru sur, 200 ft from s and e lines. F. D. Prince, Tyler, J. P. Consler, 1½, 1, F. Cordova sur, 191 ft from e and 103 ft from n line. Turman Oil Co., Tulsa, R. Dark, 48½, 3, M. J. Pru sur, 1226 ft s of No. 1. Pilot Oil Co., Dallas, M. A. Thrash, 30, 2, F. Cordova sur, 150 ft e and 250 ft from n line. Stanolind O&G Co., Longview, J. S. Powers, 100, 2, J. Womack sur, 330 ft from s and e lines. F. H. E. Oil Co., Fort Worth, M. L. Thompson, 4, 1B, F. Cordova sur, 165 ft from n and 330 ft from e line. Gulf Prod. Co., Houston, C. E. Christian, 94, 1, M. McCabe sur, 338 ft from w and 266 ft from s line. G. C. Turner, 320, 2, F. Cordova sur, 179 ft from s and 205 ft from w line; 3, 330 ft from s and e lines; 4, 330 ft from s and w lines. E. E. Thrash, 83½, 5, F. Cordova sur, 310 ft from e and 330 ft from s line. O. H. Grissom, 21½, 4, F. Cordova sur, 250 ft from w and 125 ft from s line. E. L. Chapman, Fort Worth, O. R. Russell, 20, 1, J. English sur, 150 ft from n and 450 ft from w line. J. Minchew, 20, 1, H. B. Dance sur, 208 ft from n and 200 ft from e line. W. P. Moore, 10, 1, M. J. Pru sur, 200 ft from n and e lines. Sun Oil Co., Dallas, O. W. Knight, 264, 1, D. Collins sur, 250 ft from n and e lines. Texas Co., Shreveport, J. D. Stone, 50, 2, M. J. Pru sur, 194 ft from n and 188 ft from w line. Mid-Kansas O&G Co., Shreveport, W. P. Moore, 135, 2, H. Wiggins sur, 330 ft from s and e lines.

SMITH COUNTY—Sun Oil Co., Dallas, J. A. Layne, 103, 1, S. Dexter sur, 200 ft from n and e lines. A. V. Ritch, B 54, 1, J. Vargas sur, 300 ft from n and 288 ft from w line. R. L. Henson, 54, 1, J. Vargas sur, 300 ft from n and 288 ft from w line. Sinclair O&G Co., Fort Worth, A. S. Jarvis, B 116, 2, J. Vargas sur, 301 ft from s and 250 ft from e line.

SHACKLEFORD COUNTY — J. A. Jones, Moran, W. J. Woodson, 80, 1, S 1, Blind Asy. sur, 1060 ft from w and 460 ft from s line.

TITUS COUNTY—C. B. Polk, Houston, M. C. Rogers, 1500, 1, B. Moore sur, 2000 ft from n and 600 ft from w line.

UPSHUR COUNTY—C. M. Becker, Tyler, T. A. Webb, 34½, 1, G. W. Hooper sur, 160 ft from n and w lines.

VAN ZANDT COUNTY — Pure Oil Co., Fort Worth, M. L. Gilbert, 131, 1, J. Walling sur, 173 ft from n and 250 ft from w line.

WHEELER COUNTY—Harvey H. Pet. Co., Lefors, J. M. Porter, 640, 1, S 2, B 49, H&GN sur, 330 ft from s and w line se¼.

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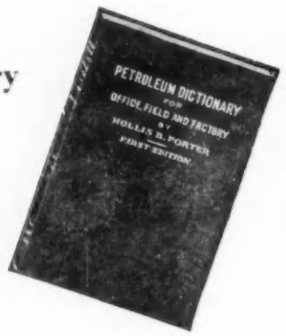

FIRST EDITION

Before deciding to publish this dictionary, a thorough search was made by the author while preparing lectures to be delivered to the students of the Petroleum Engineering School of The University of Tulsa, which revealed that there was no publication which defined in a satisfactory manner many of the words and terms used in the several departments of the petroleum industry. It was also observed, that many employees in offices were in need of a ready reference which would give them some light as to the meaning of technical as well as non-technical expressions, and words so often found in correspondence by and between individuals of the several departments of the industry. These facts furnished the inspiration for this publication. It is often difficult, and in many cases impossible, even with the best library facilities to find definitions for many of the words which have recently been introduced. This may cause some difficulty in understanding the meaning to one unfamiliar with the subject, or, to a particular branch of the industry.

This dictionary is offered to those who are employed or interested in the petroleum industry for the purpose of removing this difficulty.

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Weir's Boogher-Cummings 1, top salt 785 ft, sd 1950 ft. Buster Black et al's Hall-Roberts 1, sd 1685 ft. Alex Bradford et al's B. Carson 1, elev 2457 ft, sd showing oil and gas, td 2175 ft. Clyde Bradford et al's J. F. York 1, dr 510 ft. Bradford & Abell's E. R. Allen 2, sd 735 ft. Central Gas & Oil Co.'s Lee Monroe 1, dr 370 ft. Gibson Bros. et al's Johnson 1, elev 2432 ft, top salt 720 ft, top lime 2025 ft, show oil 2255-60 ft, dr 2398 ft. Gulf Prod. Co.'s Hutchings 8, dr 1300 ft. Hankinson et al's A. Emory 1, elev 2452 ft, top salt 840 ft, dr 1370 ft. Vic Martin et al's J. F. Boogher 1, dr 845 ft. Moran & Burkhart's J. T. Sweatt 1, elev 2436 ft, top salt 794 ft, dr 1975 ft. Moran & Miles' Boogher 1, dr 160 ft. J. D. O'Quinn et al's A. D. Cummins 1, dr 680 ft. Rector Oil Co. et al's J. S. Smith 1, elev 2721 ft, dr 2055 ft. Shipley Oil Corp.'s Monroe 1-A, elev 2655 ft, top salt 2485 ft, fsh in salt 4355 ft; Hayzlett 5, sd 2507 ft. Simms Oil Co.'s M. Himmel 1, elev 2514 ft, top salt 965 ft, dr 2555 ft. Wadsworth & Black's L. H. Owenby 1, dr 210 ft. T. R. White et al's Gus Bertner 1, lcn.

CENTRAL EAST TEXAS

Completions

CHEROKEE COUNTY—
D. Harold Byrd et al, Fariss 1.... * 4373

ANDERSON COUNTY—H. B. McConnell et al's Walston 1, M. Main sur, dk. Rianjo Pet. Co.'s Lynn 1, sd 1200 ft.

BOWIE COUNTY—Mayfield Oil Royalties & Devore's R. B. Cooper 1, W. M. Ward sur, elev 360 ft, dr 2815 ft. Tom Bell-W. A. Swift & G. W. Hindman's Roy Merritt 1, Y. S. McKinney sur, co 2525 ft. Lee J. Timberlake et al's Tidwell 2, L. M. Rice sur, elev 290 ft, sd 3000 ft.

CAMP COUNTY—W. E. Duke et al's L. B. McCasslin 1, Mary Hays sur, dr 360 ft. Monicar Oil Co. (was Illinois Ref. Co.'s) E. A. King 1, A. C. Peck sur, sp and sd.

CASS COUNTY—R. G. Baker et al's W. R. Karver 1, John Lick sur, top Pecan chalk 2286 ft, sd 2630 ft. C. A. Everts Drilling Co. et al's H. W. Whittington 1, H. E. Callahan sur, dr 1050 ft. Geo. B. McCamey et al's R. E. Hall 1, H. Buckler sur, Pecan chalk 2387-2800 or 2850 ft, Austin chalk 3035-3145 or 3007-3114 ft, top sand (dry) 3520 ft, dr 3775 ft. C. E. Murdock et al's Coody-Bank 1, E. Watson sur, elev 401 ft, sd 3990 ft. Nelson et al's Irvin 1, M. Harris sur, dr 610 ft. Olds-Smith et al's Joe Anthony 1, J. C. Byers sur, sd 3025 ft. Pigg & Davis (Fraley & Nicholsen's) Ray Bryan 1, A. H. Latimer sur, sd 1970 ft.

CHEROKEE COUNTY—Ben Banner et al's A. L. Lacy 1, J. L. Hogg sur, elev 317 ft, top Pecan chalk 3450 ft, sd 3780 ft. Denman et al's Renfrow-Smith 1, E. Moore sur, dk. Helen Clair Oil Co.'s Perkins 1, rig. H. M. Jones et al's McLee 1, Jas. Knight sur, Pecan chalk 3138-3450 ft, top Austin chalk 3899 ft, dr 3910 ft. W. A. Stone et al's E. M. Decker 1, Geo. Ruddle League, Pecan chalk 4342-4640 ft, top Austin chalk 5206 (corrected) ft, dr 5255 ft. Walton Oil Co.'s E. Singleton 1, Tillman Waters sur, sd 2960 ft. Wilson & Stubbs' Roberts 1, J. D. Wolfin sur, dk.

DELTA COUNTY — The Delta Co.'s M. Neatherly 2, J. B. Arnold sur, fsh 3145 ft. D. S. Hoad et al's J. J. Baker 1, B. Carson sur, elev 437 ft, sd 1555 ft.

FRANKLIN COUNTY—Harper-Byers Oil Co.'s A. J. Laws 1, D. G. Rogers sur, top Pecan chalk 2398 ft, co 2640 ft. L. B. Pruitt & Geo. L. Pace's C. E. Cowan 1, Sam Lipscomb sur, top Pecan chalk 2501 ft, dr 2570 ft.

FREESTONE COUNTY — J. P. Haley & Young's M. C. Lancaster 1, D. Avant sur, dk. E. L. Smith Oil Co.'s E. Jackson 1, Wiley Carter sur, elev 320 ft, top Austin chalk 2825 ft, fsh 3135 ft.

HENDERSON COUNTY—Westhyde Investment Co.'s Thornhill 1, Jas. Spivey sur, elev 461 ft. Pecan chalk 2707-2850 ft, top Austin chalk 3842 ft, dr 3855 ft.

HOPKINS COUNTY—Thelma Wells et al's J. M. Taylor 1, dk.

LAMAR COUNTY—Evert & Allen (Doyle & Rondeau's) J. A. Guest 1, Luke Roberts sur, elev 525 ft, top pecan chalk 2072 ft, dr 2700 ft. Puritan Oil Co.'s Geo. Parr 1, R. Russell

sur, sp and sd. Indian State Oil Co.'s Tom Watson 1, L. Aud sur, dr 2005 ft.

LEON COUNTY—Cooper et al's Lunch 1, T. H. Gardner sur, dk. Sun O I Co.'s Ella Grayson 2, Marquette Blk., dr sandy-shale 1715 ft.

NACOGDOCHES COUNTY — Adams and Williams' Stephens 1, Sanchez sur, ru. Big Indian Oil Co.'s Stewart 1, Black Jack, dk. Texokla Corp.'s Driver 1, Torres sur, sd 2000 ft. Darwin Benedum's Conkrite 1, Chireno sur, dr 4400 ft. West Texas Oil & Royalties Corp.'s King 1, 3 mi w Garrison, ta 4000 ft. Trout and Dixon's Blount 1, Williams sur, dk. Bunte, Marin and Scroggins 1, Boggs, sd 2000 ft. J. F. Burke et al's Pattison 1, Santos Coy sur, sd 4270 ft. Churchill-Armstrong's Hart 1, Alazan block, dk. Fain & McGaha's Pirtle 1, Edward sur, abn 3955 ft. Foreman and Weller's Norris 1, Ybarbo sur, ru; Mattaeur 1, Chireon sur, dk. Upland Oil Co.'s Cooper 1, Lilbert, abn 4050 ft. R. E. Burt's Reese 1, ½ mi s Nacogdoches, dr 2500 ft. Twin Counties-Joiner's Reeves 1, Sacul, stuck ds 4400 ft. Sequoia Oil Co.'s Elza Boyd 1, 1½ mi s Cushing, ru. W. W. Wheeler's Parmley 1, 8 mi nw Nacogdoches, dr 3800 ft. E. L. Chapman's Tilford-Hunt 1, 16 mi nw Nacogdoches, dr 4100 ft. Joiner-Henson's Legg 1, Durst sur, dr 3950 ft. Paul Vitek's Hayter 1, 7 mi w Nacogdoches, sd 2800 ft.

MORRIS COUNTY — Verne Dumas Pet. Co.'s Thos. Ball 1, A. S. Young sur, rig. Harry W. Elliott et al's C. D. Browne 1, Dyer sur, top Woodbine sand 3176 ft, sd 3607 ft. Lewis Prod. Co. & Selby O&G Co.'s Coffee-Browne (320-ac lse) 1, W. M. Coffee sur, sp and sd.

RAINS COUNTY—Berry-Hale et al's Owenby 1, J. Alexander sur, sd 2095 ft.

RED RIVER COUNTY—Concord Oil Co.'s Norris-Guest (35-ac) 2, lcn. C. M. Joiner Pet. Co.-Harris & Echols' E. Howison 1, W. Humphries sur, elev 540 ft, sd 1960 ft. Pierson et al (Concord Oil Co.'s) J. R. Dillahunty 1, I. Moore sur, sd 430 ft. S. A. Ross et al's W. F. Bryan 1, P. Vaughn sur, dk.

RUSK COUNTY—Adams & Williams' Stephens 1, M. Sanches sur, dk. A. J. Brown et al's Strong 1, John Hallman sur, sp and sd. Caprock O&G Co. (R. C. Viehl's) Burton 1, J. J. Yarbo sur, rig. R. W. Giles-Frank Melat et al's Newt Orr 1, Wm. Tippett sur, top Pecan chalk 1980 ft, coring 2760 ft. Albert W. Jones Oil Co.'s J. Menefee 1, T. G. Walling sur, dr 1210 ft. J. S. Kimbrough et al's Weatherly 1, Robt. Martin sur, Pecan chalk 2784-3240 ft, sd 3600 ft. E. C. Laster, Inc. & Miller's B. B. Gray 1, Jas. McLean sur, sd 1225 ft. Leonard Pet. Co.'s Sanger-Tablowski 1, J. P. Meredith sur, top Pecan chalk 2777 or 3090 to 3218 ft, dr 3425 ft. Pitts et al's Freeman 1, J. Watkins sur, dk. Nat Sadler et al's Ed. Sparks 1, Abner Nail sur, sd 2080 ft. Stevens & Turner's Pickett 1, dr 1825 ft. Mrs. S. O. Thompson's Price 1, H. Milliken sur, dk.

EAST TEXAS

Completions

HARRISON COUNTY—		
Everts Drilling Co., Sypert 1, Richard Hooper sur	*	4007
MARION COUNTY—		
Rondeau & Hindman, McGaugherty 1, W. J. Wills sur	*	3933

HARRISON COUNTY—O. H. Parkening's T. J. Taylor 1, Walter H. Payne sur, elev 201 ft, 12½ cas 215 ft, top Saratoga 1624 ft, sd for fuel in shale and shells, 2530 ft. Banner et al's Lowrey 1, W. O. Stanfield sur, top Nacatosh 1700 ft, top PG 2136 ft, claimed oil show in Blossom 2797-2805 ft, 6-inch 2797 ft, tested sw 2805 ft, top AC 2170 ft, sd 3650 ft. Ryan Cons. Pet. Corp.'s H. H. Key 1, E. Carroll sur, 12½ cas 488 ft, top PG 1737 ft, base PG 2300 ft, Blossom sand 2485-91 ft, dry, 9-in cas 2823 ft, dr lime 3170 ft (Trinity test). Everts Drilling Co.'s Sypert 1, Richard Hooper sur, elev 311 ft, no Nacatosh, top PG 2140 ft, top AC 3252 ft, top Georgetown 3995 ft, dry abn in Georgetown lime, td 4007 ft. J. M. Gholson's Bivins 1, T. K. Pearson sur, top PG 1973 ft, dry thru ds 1971 ft, dr chalk 2000 ft. Olford et al's Bolding 1, W. O. Standfield sur, base Nacatosh 1820 ft, sd in sandy shale 2020 ft. Thomas & Kinsey's J. R. Watson 1, Thos. Iden sur, dk. Lloyd Oil Corp.'s Timmons 1, Jno. Findley sur, rig (Trinity test).

MARION COUNTY — Rondeau & Hindman's McGaugherty 1, W. J. Wills sur, dry abn in Georgetown, td 3933 ft; Lindsay 1, Alex Albright sur, sd 400 ft. J. W. Hamilton's Wood 1, Alex Albright sur, sd 400 ft. Claunch et al's Laun 1, Henry Fugham sur, sd 30 ft, wo surf cas. Sheldon et al's Brown 1, E. B. Fowler sur, 12½ cas 519 ft, sd 2200 ft.

PANOLA COUNTY—Dillon & Bradham's Baldwin 1, Hampton West sur, 12½ cas 43 ft, claim top PG 1500 ft, sd 1555 ft. United Prod. Corp.'s Steele 17, B. C. Jordan sur, lcn (Trinity test). Werner 10, B. C. Jordan sur, 9-in 3450 ft, dr 4200 ft (Trinity test). Southwestern O&G Co.'s Vinson 1, C. T. Anderson sur, dr 3873 ft. Daisy O&G Co.'s Rucks Hrs. 1, Jno. Palmer sur, 12½ cas 780 ft, top chalk 1352 ft, 8¼ cas 1900 ft, dr 3863 ft. Everett Prod. Co.'s McDaniel 4, Alamson Barr sur, cored bro chalk and shale slight show oil 2776-79 ft, dr chalk and shale 2782 ft. Moses & Wallace's C. L. Daniels 1, Isabel Hanks sur, dk. Hoffer et al's Cameron 1, W. A. La Grone sur, dk. Davidson et al's Latham 1, Wm. Rich sur, 10-in 40 ft, sd wo heavy rig 550 ft. Ark. La. P. L. Co.'s Werner 14, B. C. Jordan sur, 12½ cas 150 ft, cemtd 9⅝ cas 3446 ft (Trinity test). Nelson et al's Williams 1, Jas. Hanks sur, sp. Mid-Kansas O&G Co.'s Sholar 1, Susan Snider sur, dr 210 ft (core test). Stamps et al's Chadwick 1, Wm. Scantleberry sur, materials.

SHELBY COUNTY—Sloane Pros. Co.'s & Tokio Oil Co.'s Windham 1, A. H. English sur, elev 307 ft, 10-in 180 ft, 6⅝ cas 2652 ft, show oil in Blossom 2680 ft, made small heads oil from bro chalk 3389-99 ft, sdtr 5 joints 4½ cas at 3000 ft, cemtd 4½ cas 3294 ft, dr plug and r to bot, setting liner, td 3399 ft. T. B. Sandford 1, M. M. Vann sur, 12-in cas 300 ft, top PG 2350 ft, sd for water in chalk 2906 ft. Chapparral Oil Co.'s Holt 2, Matthew Moore sur, washed to bot, sd wo pump, td 3111 ft. E. L. Chapman's Pickering Lbr. Co. 1, C. F. Henry sur, 10-in 240 ft, recemtd 12½ cas 400 ft, dr hd lime 3904 ft. Maulding et al's Frost Lbr. Ind. 1, A. B. Fountain sur, 12½ cas 500 ft, sd wo heavier rig, td 1880 ft. H. H. Gracey's J. A. Morrison 1, Wm. English sur, 10-in 200 ft, sd for water, td in chalk 2511 ft. I. M. Bradley et al's J. J. Asberry 1, G. W. Mitchell sur, base PG 2292 ft, base AC 2877 ft, claim 2 ft cap rock 3042-44 ft, claim sand showing oil 3044-50 ft, arr r down to 3042 ft and set 6⅝ cas, td 3050 ft. T. A. Martin's J. A. Bush 1, Alfred Lindsay sur, mov in rig. Joiner et al's Foster & Billingsley 1, J. Bowlin sur, 10-in 174 ft, sd in shale 1540 ft. Schultz et al's Hughes 1, J. Clay sur, 10-in 80 ft, sd repr rig, td in chalk 2640 ft. C. H. Tautenhahn's J. C. Bogard 1, Thos. Baker sur, sp, sd 20 ft, mov in heavy rig. Glidden & Stephenson's Pickering Lbr. Co. 1, Jonas Harrison sur, mov in rig. Ridgeway et al's Polley 1, Domingo Gonzales sur, dk. Geo. L. Pace's Powers 1, John Tims sur, dk. T. W. Tennent's Henry 1, Jno. Spradley sur, dk.

TEXAS GULF COAST

ANGELINA COUNTY—R. D. Moore's Abney Est. 1, Tuinalty Sur., sd 1350 ft. Pollock Oil Co.'s Sessions 1, Garza Sur., sd 3200 ft.

AUSTIN COUNTY—O'Hara et al's Schrader 1, Hacienda Sur., abn 3900 ft. Parmeson & Cafferkey's Scholeckte 1, Fitzgibbons Sur., dr 1500 ft, gumbo and lime.

BRAZORIA COUNTY—United Oil Synd's Speer 1, 3 mi n Danbury, abn 1865 ft. D. C. Wellocks' Hammon 1, Mills Sur., dr 600 ft sand and shale. The Texas Co.'s Belcher 1, se of Manvel, dr 2550 ft, lime and bldrs.

BURLESON COUNTY—Doran et al's Sparks 1, ne cor of county, sd 1300 ft. Mid South Oil Co.'s Duckworth 1, 2 mi e Clay Station, abn 3070 ft. March and Son's Marek 1, dr 1550 ft shale.

CALHOUN COUNTY — The Texas Co.'s Smith 1, Chocolate Creek, dr 6250 ft shale and sand.

CHAMBERS COUNTY—Pure's Mayes 13, Lost Lake, dr 5465 ft, slight oil show.

FAYETTE COUNTY—Elam and Reynolds' Florence 1, sd 2600 ft.

FORT BEND COUNTY—Cullen & West's Lockwood 1-A, dr 2700 ft. Telschaw, Cady et al's Blakely 1, Blue Ridge, t.a. 3100 ft.

GALVESTON COUNTY—Yount-Lee's Cade 20, ru; Cade 21, dr 4310 ft o.s.

GRIMES COUNTY—Rianjo Oil Co.'s Cuthrell 2, ru.

HARDIN COUNTY—Plummer & McDaniels' Reed 1, 6 mi e of Sour Lake, dr 1300 ft gumbo and lime.

HARRIS COUNTY—J. C. Baldwin et al's Krahn 1, 3 mi n Cypress, dr 500 ft sand; Cypress Dr. Synd's Fritz 1, Duckworth Sur., dr 1150 ft gumbo. Humble's Minnetex 5, ru; Minnetex 6, dr 5530 ft sand.

HILL COUNTY—Hilltex Oil Co.'s Weatherford Sur., sd 4000 ft. H. H. Heed.e's Gilmore 1, Navarro School Land Sur., sd 875 ft. C. Houseman's Griffith 1, Waddell Sur., sd 1430 ft.

HOUSTON COUNTY — Houston County Dev. Co.'s Starks 1, 5 mi nw Lovelady, ru. Jones-Irish Dev. Co.'s Wooters 1, 5 mi n Lovelady, sp in. A. E. Winfree's Hodges 1, Russell Sur., dr 2450 ft.

JACKSON COUNTY — Chicago Gulf Co.'s Rodgers 1, Rodriguez Sur., showed gas pressure on dst, 1106 lbs, at 3950 ft.

LAVACA COUNTY—F. P. Zech's DeBard 1, dr 1350 ft.

LIBERTY COUNTY—J. R. Ingram's Fenner 1, Palmer Sur., dr 750 ft gumbo. Cranfill & Reynolds' Davis 7, Esperson dome, fsh 5880 ft. Gulf's Boyt 14, Hankamer, dr 3960 ft sl o.s. Harrison Oil Co.'s Jones 2, dr 2150 ft shale.

MATAGORDA COUNTY—Cockburn et al's Hawkins 3, Shepherds Mott, dr 4860 ft sand and shale. Empire's Boker 1, Citrus Grove, abn 6460 ft.

MONTGOMERY COUNTY — Lowrie & Young's Sunday 1, sd 3770 ft. Mike Hogg's Hunt 1, 3 mi sw Conroe, abn 4743 ft. White & Hornbeck's Lieberman 1, 2½ mi w Conroe, dr 4530 ft shale.

ORANGE COUNTY—Jefferson Prod. Co.'s Bland 1, Dyson Sur., dr 1880 ft shale.

POLK COUNTY—Freeman et al's Freeman 2, 4 mi se Leggett, dr 3150 ft shale.

TYLER COUNTY—Texas Sun Co.'s Wilson 3, dr 4940 ft shale. L. H. Wentz's Mann 1, 2 mi sw Colmesneil, dr 2550 ft shale. King Oil Co.'s Caswell 1, sd 1250 ft.

WASHINGTON COUNTY—Penn Tex Oil Co.'s Kamas 2, Brenham, dr 3020 ft sl o.s. Sun's Janner 6, Clay Creek, dr 1275 ft. Brenham Salt Dome Deep Test Oil Co.'s Kramer 1, Brenham, dr 2650 ft sand. Yegua Oil Co.'s Graves 1, 3 mi n Independence, dr 2290 ft gumbo and shale.

WHARTON COUNTY—H. H. Givan's Hudgins 3, 2 mi e Hungerford, sd 3200 ft.

NORTH LOUISIANA

Completions

SABINE PARISH—			
Lacey Prod. Co., Cooper 1, 30-8-11		*	2620
W. M. Coates, McNeeley 1, 14-7-11		*	2630
Lyons & Neely, Byrd 2, 1-7-11		70	2480
H. W. Perritt, Boring 1, 11-7-12		40	2602
Geo. Pipes, Tr., Byrd 1, 1-7-11		*	2610
Eddie Self, Jacobs 1, 1-7-11		30	2472
Texas Co., De Latin 1, 3-7-11		*	2650
Stovall Drilling Co., Nulton 1, 1-7-13		1000	2357

BIENVILLE PARISH—Ark. La. P. L. Co.'s Gayoso Co. Inc. 1, nw sw 14-16-10, 15½ cas 112 ft, 10-inch 2565 ft, tested 1½ mil ft gas 2578 ft, coring 2602 ft. Arcadia Drilling Co.'s Atkins 1, nw ne 27-18-6w, sp 10-inch 80 ft, dr 300 ft.

BOSSIER PARISH—Andrews & Davlin's Nattin 1, cored bro sand showing oil 2871-82 ft, wo string 4½ cas, td 2882 ft. Rambaugh et al's Allison 1, 10-19-13, sd 1100 ft. Flint River Oil Co.'s De Moss 1, se nw 22-22-13, 12½ cas 230 ft, small show oil and gas in ds test 2612-30 ft, sd 2702 ft. Hankins et al's Newell 1, ne ne 12-19-11, dr rock 1002 ft (upper Trinity test). H. I. Morgan's Kendricks A-13, nw se 22-19-11, 10-inch 278 ft, cemtd 6⅝ cas 1718 ft, dr 1727 ft (upper Trinity test). D. L. Perkins et al's Ardis 1, ne sw 13-15-11, 10-inch 120 ft, sd.

CADDO PARISH—Pelican Nat. Gas Co.'s Cooper 1, 29-18-14, 15½ cas 200 ft, 12½ cas 1129 ft, dr lime rock 3586 ft (5500 ft test). United Gas Pub. Serv. Co.'s Smith 1, nw ne 33-23-16, 12½ cas 471 ft, cemtd 9⅝ cas 3593 ft, dr plug (5500 ft test).

CALDWELL PARISH—Monroe Pet. Corp.'s Burton 1, 36-12-2e, sd cur titles 2986 ft. Carter Bell et al's Taylor 1, ne se 17-14-4e, rig.

CLAIBORNE PARISH — Leue Oil Co.'s

Kinder 1, sw se 2-21-7w, 12½ cas 152 ft, dr 3000 ft.

DE SOTO PARISH—Rellitt O&G Co.'s Cannon Hrs. 1, nw ne 12-11-16, 10-inch 60 ft, dr 1410 ft. W. H. Weichert's H. Smith 1, 31-14-15, top gas sand 1653 ft, top chalk 1901 ft, sd 2350 ft. E. T. Oakes' Johnson 1, 3-13-15, 10-in 80 ft, base Midway 1378 ft, dr chalky shale 1898 ft. Walters & Nicholson's Jim Guy 1, 3-11-13, rig.

NATCHITOCHES PARISH—C. M. Talley et al's Talley 1, 29-11-10, tested dry show oil in bro sand and shale 1256-69 ft, tested dry, sd 1380 ft. W. M. Coates et al's Collins 1, sw nw ne 28-9-10, base Midway chalk 2612 ft, base hd lime 4039 ft, tested 15 joints mud and sw 4020-91 ft, ta 4091 ft. J. W. Cooper et al's Cooper 1, 35-11-10, sd 3156 ft; Cooper 2-A, 35-11-10, top chalk 1400 ft, sd 1515 ft.

RED RIVER PARISH — Mack Jourden Co.'s Lockett 1, 32-13-10, 10-inch 90 ft, dr 1735 ft.

SABINE PARISH — Lacey Prod. Co.'s Cooper 1, 30-8-11, top chalk 2306 ft, 6⅝ cas 2270 ft, dry abn in chalk, td 2620 ft. Houston-Sabine Prod. Co.'s Sabine 1, 36-8-12, 10-inch 85 ft, 6-inch 2238 ft. J. J. Keen's Belton 1, se sw ne 31-9-13, elev 232-7 ft, top Nacatosh 1590 ft, top marl 1596 ft, 8¼ cas 1690 ft, claim core showing oil 1590-1600 ft, blg to test 1610 ft. H. W. Perritt's Bowman-Hicks 4, se ne 2-7-12, 6-inch 2203 ft, tested dry 2290 ft, tested dry 2307 ft, di 2320 ft; Bowman-Hicks 5, sw ne 2-7-12, lcn; Boring 1, ne nw 11-7-12, 10-in 85 ft, 6-inch 2238 ft. J. J. Kean's Belton 1, se 2602 ft. A. H. Thames' Edwards Est. 1, ne se 8-8-13, 10-inch 100 ft, sd 1400 ft. R. L. Gay, Tr.'s Long-Bell A-1, ne nw 10-8-13, 12½ cas 105 ft, top marl 1897 ft, base marl 1950 ft, dr hard lime 3438 ft. Jordan Drilling Co.'s McCormick 1, sw se 2-7-11, 10-in 98 ft, dr 2000 ft. Gautier et al's Meshell 1, se nw 30-8-12, top marl 2224 ft, setting 6⅝ cas, td 2260 ft. Ohio Oil Co.'s Bowman-Hicks 9, nw se 35-8-12, lcn; Bowman-Hicks 10, sw se 35-8-12, lcn; Bowman-Hicks 11, sw se 2-7-12, lcn. Sabine Royalties Co., Inc., Bill Hill 1, nw ne 5-7-11, 10-in 105 ft, top marl 2217 ft, 6-in 2230 ft, wosr, td 2546 ft; Bill Hill 2, sw se se 32-8-11, 10-in 90 ft, top Z. marl 2300 ft, cemtd 6⅝ cas 2302 ft, td 2306 ft. Diffie & Barrett's Lites 1, 34-8-11, 10-in 105 ft, sd wo. Hawkins et al's Moran 1, se ne 1-7-11, 10-in 100 ft, 6-in 2428 ft, 400 ft oil in hole, wosr td 2620 ft. Hawkins & Antoon's Newton 1, 1-7-11, 10-in 90 ft, cemtd 6 -in cas 2402 ft. Lyons & Neely's Bryd 2, 1-7-11, flowing 70 bbls oil daily through 2-inch tub, td 2480 ft; Duggan 1, nw se 14-7-11, dk pat. Texas Co.'s De Latin 1, 10-in 95 ft, 6⅝ cas 2330 ft, dry abn in chalk, td 2650 ft; Landrum 1, 32-8-11, dk pat. W. M. Coates' McNeeley 1, 14-7-11, 10-in 90 ft, 6-in 2384 ft, showed oil at top chalk 2500 ft, dry abn, td 2630 ft in chalk; Williams 1, 23-7-11, 10-in 85 ft, top chalk 2360 ft, coring 2710 ft. Stovall Drilling Co.'s Nulton 1, nw se ne 1-7-13, top chalk 2089 ft, 6-inch 2075 ft, flowing 1000 bbls oil thru 7/16 inch choke, td 2357 ft. W. M. Coates' Hale 1, 1-7-13, dk. Magnolia Pet. Co.'s Peterson 1, 1-7-11, lcn. Eddie Self's Jacobs 1, sw se 1-7-11, 10-in 105 ft, 6-inch 2416 ft, flowing 30 bbls oil daily, td in chalk 2472 ft. L. K. McGuffin's Bush 1, nw sw 1-7-11, 10-in 95 ft, sd 400 ft. Geo. Pipes, Tr.'s, Byrd 1, sw nw 1-7-11, 10-in 95 ft, 6-in 2397 ft, dry abn, td in chalk 2610 ft. Zeke Lohman's McCormick 1, ne sw 2-7-11, 10-in 95 ft, dr 1410 ft. A. F. Tarver's Cutrer 1, nw nw 12-7-11, 10-inch 80 ft, 6-in 2375 ft, sd 2650 ft. Ben Merritt, Tr.'s, Byrd 2, ne sw 1-7-11, 10-in 80 ft. Ray Baker's aSbine 1, ne nw 11-7-12, 10-in 75 ft, dr 1750 ft. Loring Oil Co.'s Bowman-Hicks 16, ne sw 2-7-12, dk pat.; Bowman-Hicks 17, se ne 16-7-12, dk (6000 ft test).

TENSAS PARISH—Nick Barbare's Mutual Realty Co. 1, ne ne 36-11-9e, dr 840 ft. A. R. Willis' Curry 1, 39-11-12, 10-inch 80 ft, sd 3545 ft.

UNION PARISH—Root Ref. Co.'s Douglas 1, ne nw sw 9-22-2w, lcn. T. P. Fields, Tr.'s, Summitt Land Co. 1, 1-21-1w, rig.

WEBSTER PARISH—D. M. Coyle's Frazier 1, ne se 27-23-11, dk. Cassidy & Davis' Nickerson 1, ne sw 29-23-10, sd 160 ft.

WEST CARROLL PARISH—United Gas Pub. Serv. Co.'s Pioneer Cooperage 1, 29-21-8e, 15½ cas 167 ft, 10-inch cas 867 ft, dr 2840 ft.

WINN PARISH—Gulf Ref. Co.'s Bodcaw Lbr. Co. A-1, ne sw 4-10-5w, 15½ cas 101 ft, dr blue gummy shale 940 ft.

MONTANA

CASCADE—Andover Oil Co.'s Floweree 1, se 29-21-2w, ur pipe, td 1690 ft.

GALLATIN—Gallatin Valley Oil Co., nw 1-1n-4e, dr.

GLACIER—Fulton Pete Corp.'s Blackfeet 1, ne 28-36n-12w, cem 2010 ft. Jeffries-Hoerr's Dawson 1, ne 7-31-12w, mvg to resume 2980 ft.

LIBERTY—Northland O&G Co.'s Yurman 1, 32-33n-5e, sd 3700 ft, wait for equipment. Peoples O&G Co., First Nat'l Bank 1, nw 17-36-6e, rig up.

ROSEBUD—Prairie O&G Co., 1-X, 26-10-39e, dr by tools 1944 ft, td 2415 ft.

TETON—Andover Oil Co.'s Carlson 1, 5-24-4w, stand 150 ft. California Co.'s Sullivan 1, nw 34-27-7w, pull 15½-inch to strmm, td 490 ft. Earl Oil Corp., Gad 1, se 22-22-8w, dr 2750 ft.

TOOLE—Liquid Gold Oil Co.'s Robert 1, ne 25-36-12, wait for 5-inch at 2500 ft. International Roy. Hold. Co.'s Henry 1, sw 26-35-36, pull 8¼-inch at 2650 ft. Oregon Oil Synd., se 20-36-2e, rigging up. Trans-America Oil Co., Lackey 1, sw 28-24-8w, rig up to dr to Madison.

YELLOWSTONE — Peter Antonioli, 21-2n-25e, wait cas 1600 ft.

COLORADO

ADAMS—N. M. Slatt's 1, se 27-26-64w, carry 8⅝ inch cas at 3684 ft.

ARAPAHOE — McDeb Drlg. Co.'s Fitzsimons 1, ne 7-4s-68w, prep to run 4¾-inch, td 5835 ft.

EL PASO—Utemore Synd., Cannon 1, ne 10-16s-66w, sd 1125 ft.

QUICK CHANGE CHOKE

GULFCO MULTI-CHOKE

The amazing interest that has followed the first announcement of the "Quick Change" GULFCO MULTI-CHOKE is not to be wondered at when the following revolutionary points are taken into consideration:

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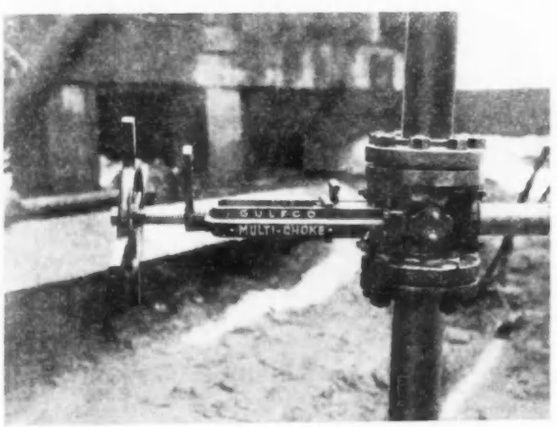
(2) The chokes are loaded in like cartridges, and are changed with almost the speed with which cartridges are ejected from a repeating rifle.

(3) You can keep running these cartridges through indefinitely. It is unnecessary to close the flow line gates. Nothing has to be removed from the line.

(4) **ECONOMY Is the Greatest Feature of the Gulfco Multi-Choke.** Connection gang work for making change is eliminated. The number of openings in the extremely hard steel of each of the cartridges, and the low cost of replacement of the cartridges, make for economy in choke up-keep that has never been even approached by any other method.



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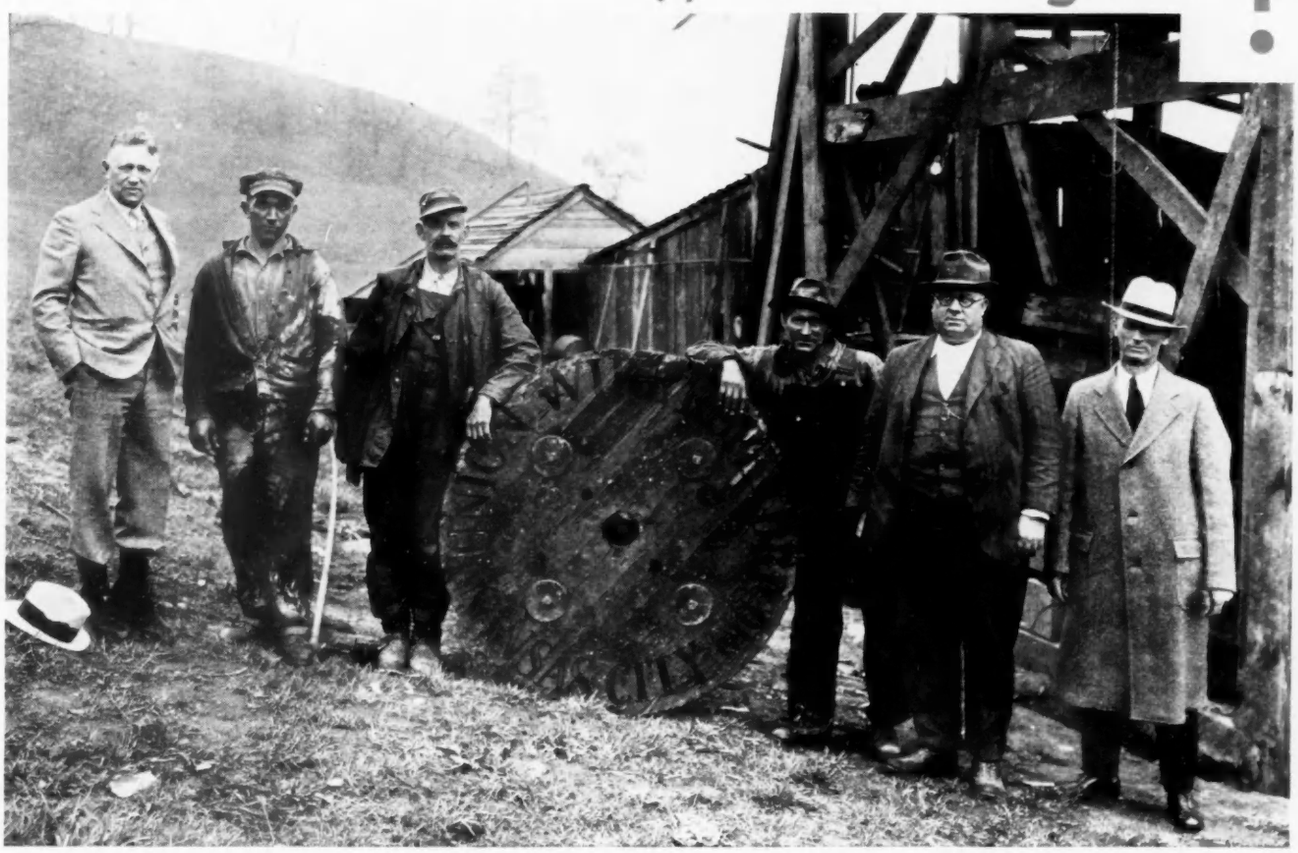

The men in the picture, left to right: F. A. Donaldson, Union Wire Rope Corp.; Glen Wright, well blower for the Pittsburgh-West Virginia Gas Co.; Hugh White, driller; D. F. (Tug) Wilson, contractor; Thomas Mosburg, manager of the Jarecki store at Ellenboro, W. Va.

. . we guess "TUG" WILSON

D. F. (Tug) Wilson used UNION Wire Lines on the well shown above—No. 2039 of the Pittsburgh-West Virginia Gas Co. Experienced contractors realize that only *good* wire lines can be truly economical. And prominent operators in every field know they can depend on the uniform high quality of UNION Wire Lines.

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E L L I O T T

Core Drills

GRAND—Oil Mineral Land, Inc., McElroy 1, sw 14-2n-81w, stand 545 ft.

HUERFANO—Parker Club, Inc., Fee 1, se 4-28s-68w, may start new hole, td of old 4116 ft.

JEFFERSON—Ruby Hill O&G Co.'s Braden 1, se 24-4s-59w, dr 3937 ft.

LA PLATA—McGarr Pete Co.'s Pinon Mesa 1, ne 34-33n-12, lcn. Klem Pete Corp.'s Olbert 1, se 9-25n-12w, stand 3125 ft. Murchison Oil Co., Doescher 1, nw 29-23n-12, mak repairs, td 1225 ft.

LINCOLN — Eastern Colorado Oil Corp.'s State 1, 36-14n-57w, ur 4¾-inch to 3380 ft.

MONTEZUMA—G. H. Talcott et al's McElmo 1, 7-35n-16w, sd 635 ft. Haller et al, Stephens 1, 33-36n-14w, gas at 745 ft, capped.

MONTROSE—Uncompahgre O&G Co., Title & Trust 2, 27-50n-10w, dr 1005 ft.

MORGAN—Ind. Terr. Illum. Oil Co.'s State 1, ne 16-1n-57w, co 4090 ft.

PUEBLO—Anchor Oil Co.'s Easley 1, sw 35-22s-57w, stand 532 ft.

PARK—So. Park Oil Co.'s Milligan 1, se 13-8s-76w, td 2017 ft, stand cem. So. Park O&G Co.'s Easche 1, ne 5-9s-76w, prep to run 8¼-inch at 2365 ft.

RIO BLANCO—California Co.'s Raven 1, se 20-2n-102w, dr 415 ft. Magnolia Pete Co.'s Maddock 1, se 9-2s-96w, spd 66 ft.

WASHINGTON—Middlemist Oil Co.'s Middlemist 1, se 14-4-56, stand 1510 ft.

WELD—Reiter-Foster and Platte Valley Pete Corp., Johnson 1, nw 24-6n-61w, dr 5800 ft. Aztec Corporation, Kirchoff 1, se 1-6n-61w, lcn.

NEW MEXICO

CHAVES—Warman Oil Trust, Siebert 1, ne 27-13-24, plug back from 2686 ft, shot, sd. Neal et al, Russell 1, nw 21-14-25e, stand 2320 ft.

DEBACA—Matador Oil Co.'s Wood 1, se 6-4n-20e, 6⅝ inch cemt 3190 ft.

GUADALUPE—N. M. Prod. & Ref. Co., McMullen 1, 24-5n-16e, dr 425 ft.

HARDING—Kumbaca O&G Co., Kerlin 1, se 34-21s-30e, 3M gas at 970 ft.

LUNA—Angelus Oil Mining Ass'n 1, se 20-21s-10w, wtg gas 6085 ft.

McKINLEY—J. W. Halsell's 1, 17-18-9w, sd 3255 ft. Wms. et al's A.T.S.F. 1, se 19-18n-8, stand 1900 ft. United Kern Pete, Inc., sw 1-18n-11w, lcn. Dysart et al, Dysart 2, ne 14-14n-10w, sd temp at 1315 ft. Johnswood Oil Co., Hannett 1, sw 12-15n-10w, td 40 ft.

MORA—Fulton Pete Co.'s Santa Fe Dioxice Co., Wagonmound 1, ne 14-19-21, cem 1313 ft.

OTERO—Ernest et al's 1, se 20-25s-7e, sd 1005 ft. Pasotero Oil Corp., Evans 1, sw 22-24s-12e, set 10-inch at 683 ft.

RIO ARRIBA—Berrenger et al's Hartman 1, ne 8-29n-7w, sd 825 ft. San Juan Pete Co.'s Gov't 1, se 14-30n-7w, sd 250 ft. Governador Oil Co.'s 1, se 12-29n-7w, dr 1032 ft.

ROOSEVELT—Peterson et al, Good 1, ne 32-5s-30e, ready to spud.

SAN JUAN—Kutz Canon O&G Co.'s Day 1, se 20-28n-10w, fsh 3175 ft. Rio Grande Dev. Co.'s 2, 9-29-11, dr 1530 ft. Continental Oil Co.'s Rattlesnake 24, 1-29n-19w, wait for string of dr pipe, td 4730 ft. San Juan Leaseholds, Bowman 3, ne 30-30-15, sd 2635 ft. Reserve Oil Co., Reserve 3, se 36-22n-14w, dr 820 ft. R. C. Oswell et al, nw 34-30n-11w, td 450 ft, gassing. Wms. et al's Stallings 1, sw 17-25n-15w, dr at 210 ft.

SAN MIGUEL—Pioneer O&G Co.'s Thunderbird 1, nw 14-15n-16e, prep to res 2340 ft. Starr Oil Co.'s Adams 1, ne 25-17-16e, dr 4000 ft. Cibola Pete Co.'s Crown 1, se 9-13n-14e, prep to res 750 ft. Hershfield Dev. Co.'s Cabra Springs 1, ne 12-12n-22e, prep to res 1415 ft. Con-O-Kul Oil's Cherryvale 1, ne 34-17n-21e, wtg for equip. 973 ft.

SANTA FE—Jones, Owsley, et al., 1, 5-10-9e, spd 65 ft.

TORRANCE—Wms. et al's Staplin 1, ne 16-8n-10e, ready to res 1643 ft.

WYOMING

CARBON—Midwest Refining Co., U. P. 27, 27-11-81, dr 2665 ft. P. & R., 19-20-83, circul. to free tools at 505 ft. P. & R., 7-25-86, dr sandy shale at 2440 ft.

CONVERSE—Phillips Pete Corp., 27-32-69, core dr.

FREMONT—Texas Prod. Co.'s State 1, 36-33-95, sd indefinitely 4485 ft. P. & R., 1, 33-34-92, cem and sd 5250 ft. Ward O&G Co., 28-34-90, dr bel 2100 ft. Wiebolt et al, 35-33-99, sd 1850 ft, wait orders.

HOT SPRINGS—Grebo Roy., Inc., 3-47-100, sd at 836 ft.

LARAMIE—Prairie O&G Co., Warren 1, 22-13-68, dr granite-gravel bel 131 ft.

NATRONA—Summit Oil Co., 21-33n-80w, sd 1220 ft. Midwest's 11, nw 32-34n-77, stand 5340 ft. Cuyler Oil Co., 23-36n-85w, fsh 1830 ft. Golden West Oil Co., 36-36-81, td 1265 ft. Midwest's Midway 1, ne 23-35n-79w, cem off cave 5935 ft.

NIOBRARA—West Virginia Synd., 7-35-62, cas trouble. Phillips Pete Co., sw se 32-34n-64w, oil show 375 ft, abn.

PARK—Resolute Oil Co., 15-57-101, dr 8600 ft, and flow by heads.

WASHAKIE—Ohio O I Co., lot 14, 19-45-92, dr 5530 ft.

WESTON—LeFaivre Oil Synd., se 29-45n-68w, prep to cem 15½-inch at 1000 ft. Gose Oil Synd., 28-47-65, resum 4900 ft. Osage-Wyoming Oil Co., Witzell 1, se nw 30-46-64, to res at 1600 ft.

NORTHERN CALIFORNIA

Completion

NORTH BELRIDGE—
Associated Oil Co., Reward 4, 34-27-20 . . . . . 8800 5510

BELRIDGE—Belridge Oil Co.'s No. 27-64, 27-27-20, dr shale 4885 ft; No. 35-8, 35-27-20, dr oil sand 5150 ft; No. 35-33, 35-27-20, sd 3982 ft; No. 35-48, 35-27-20, sd 4761 ft; No. 35-49, 35-27-20, sd 1055 ft. Continental's Result 2, 36-27-20, making preliminary production test, td 5253 ft, General Pet. Corp.'s Berry 1, 30-28-21, dr shale 4990 ft. Standard's McPhail 2, 36-27-20, preparing for production test, td 5591 ft. K. C. Wallace's No. 1, 32-29-21, making water shutoff test, td 4212 ft.

BLACKWELL'S CORNER—Temblor Oil and Development Co.'s No. 1, 14-26-19, dr shale 800 ft.

BUTTONWILLOW—Wilshire Oil Co.'s Nordon-Salisbury 1, 7-29-24, co 6990 ft.

DEVIL'S DEN—Cumberland Oil Co.'s Cum-

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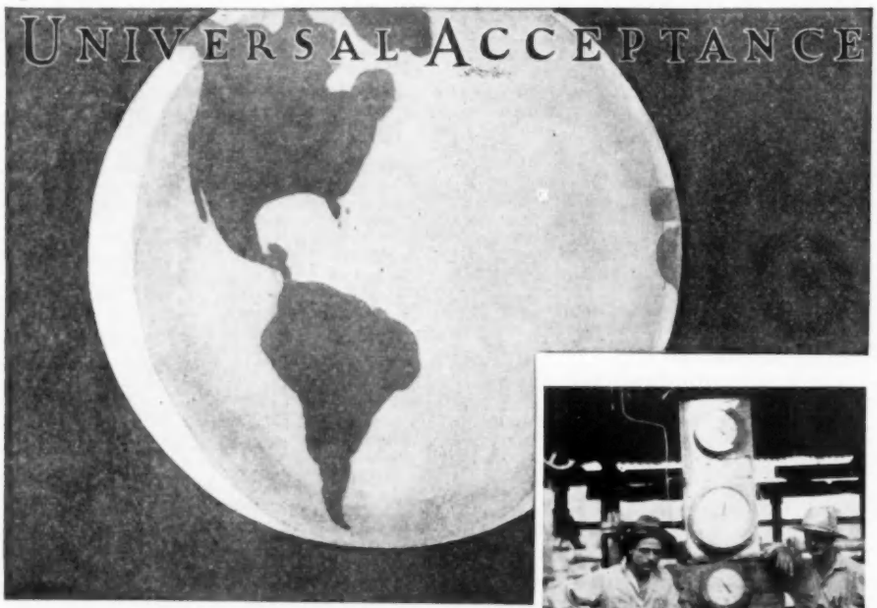

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Right—Mr. E. R. Nick, Drilling Supt., Venezuela Oil Concessions Well, Curacao No. A2.

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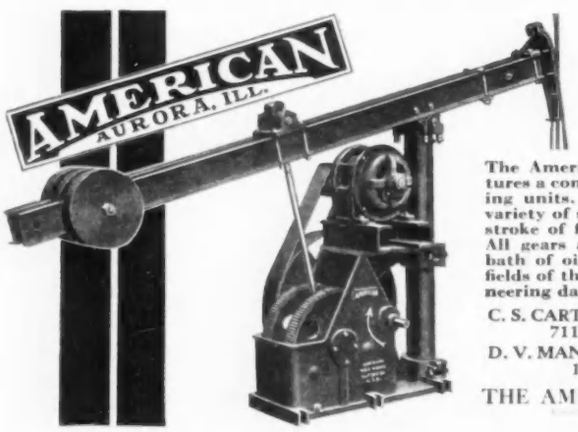

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berland 2, 21-26-18, rigging up rotary. Standard's Alferitz 1, 14-25-18, co 3206 ft.

McKITRICK—California Oil Producer's No. 2, 30-30-22, dr hard sand 500 ft.

SEMITROPIC—Shell's Williams 1, 17-27-23, plugged to 2550 ft, td 9700 ft.

WEED PATCH—Mohawk Oil Co.'s Earl Fruit 1, 4-31-29, rigged to sp. Osborn & Coulter's Shell-Duff 1, 15-30-29, dr schist 3830 ft; Duff 2, 15-30-29, lcn. Shell's Morris 1, 32-30-29, sd 5785 ft; Porter 1, 29-30-29, sd 6410 ft; Porter-Day 1, 29-30-29, testing upper showings, td 8415 ft.

SANTA BARBARA COUNTY

COAL OIL POINT—Bolsa Chica Oil Corp.'s Augur 1, 24-4-29, sd 4191 ft.

GATO RIDGE—Barnsdall's Tognazzini 1, 9-8-32, co 6510 ft.

GOLETA—General Pet. Corp.'s More 3, co 5273 ft. George W. Johnson's Duncan 1A, 19-4-27, dr shale 3750 ft.

GUADALUPE—Sovereign Oil Co.'s Donovan 1, 20-10-35, re-dr 4300 ft.

LOS ALAMOS—N. S. Wilson's Midwest 1, 2-7-35, dr shale 2628 ft.

LOS OLIVAS—Zaca Oil Co.'s No. 1, 20-7-31, rigging up rotary.

NAPLES—J. H. Cochran's No. 1, 7-4-29, deepening from 5135 ft.

ORELLA—Oakburn Oil Co.'s Sperry 169-1, killing flow of gas and water, td 2821 ft, well blew out and damaged rig.

SANTA MARIA—Western Gulf's Bradley 1, 5-9-33, sr 6775 ft.

VENTURA COUNTY

OXNARD—Magu Synd.'s Utt 1, 17-1-21, dr shale 4328 ft.

RINCON—Chanslor-Canfield Midway's Hobson A2, 23-3-24, plugged from 8430 ft to 8150 td 10,030 ft. Continental's Grubb 1, 23-3-24, dr hard sand 4616 ft.

SANTA MONICA MOUNTAINS—Olympic Corp.'s Hearst 1, 18-1-17, dr hard rock, td 5940 ft.

SANTA PAULA—San Pedro-Pt. Fermin's Kellerman 2, 13-4-21, rigging up rotary, td 3410 ft.

SESPE—Superior's Kirtlan 1, 15-4-21, sdtr reamer 7060 ft.

TIMBER CANYON—Petro Well Producing Co.'s No. 4, 18-4-20, rigging up rotary, will deepen from 1100 ft.

MISCELLANEOUS

FRESNO COUNTY — Associated's Mitchell 1, 22-21-15, dr shale 5335 ft.

KINGS COUNTY—L. W. Seymour's No. 1, 10-23-16, co 1010 ft. T. H. Purman's Avenal 1, 36-23-17, dr shale 3700 ft. Eagle Oil and Gas Co.'s No. 1, 15-23-20, lcn. Irma Investment Co.'s No. 1, 7-23-30, flowing gas, td 1347 ft, may complete at this depth. Valley Exploration Co.'s Brennan 1, 20-23-20, bailing 3750 ft.

MENDOCINO COUNTY—Twin State Oil Co.'s Soldani 1, 14-12-17, dr shale 6655 ft.

SAN LUIS OBISPO COUNTY—C. J. Schilling's No. 1, dr shale 1212 ft. Cities Service Pet. Co.'s No. 1, 20-28-15, dr shale 400 ft. Paso Robles Synd.'s Emerick 1, 34-27-11, co 4008 ft.

TULARE COUNTY—Big Four Drilling Co.'s No. 1, 29-23-27, co 4330 ft. Ducor Pet. Co.'s Zimmerman 1, 14-24-27, re-dr 2140 ft. Larsen, Stanford and Ellis' No. 1, 20-24-23, dr shale 1025 ft.

SOUTHERN CALIFORNIA

BELL—Cudahay Community Oil Ass'n's No. 1, 30-2-12, sd 1330 ft.

CALABASAS—L. W. Rucker's No. 1, 26-1-17, dr hard sand 300 ft.

FULLERTON—Brea Canyon Oil Co.'s Fee 47, will test upper showings, td 7344 ft. Standard's Bastanchury 1, 21-3-10, plugged to 7626 ft, pumping oil and water.

HAWTHORNE—Jim Thorpe's No. 1, dr shale 3810 ft.

HERMOSA BEACH—E. S. Cone's Kellogg-Burdick 1, 6-4-14, flowing by heads, td 3098 ft; Kellogg-Burdick 2, 6-4-14, lcn; Kellogg-Burdick 3, 6-4-14, lcn. Hermosa Exploration Co.'s No. 1, co 3020 ft. S. H. Human's No. 1, 6-4-14, lcn. Tulsa Oil Co.'s Hermosa 2, 6-4-14, flowing oil, td 3140 ft. Westwood Pet. Co.'s No. 1, 6-4-14, sd 3168 ft, produced some oil.

MANHATTAN—Staple Oil Co.'s No. 1, 24-3-15, dr shale 2600 ft.

NEWHALL — Electrological Pet. Corp.'s

Overman 1, 6-3-16, rigging up rotary. Guarantee Oil Co.'s Hammond 1, fsh for tools, td 3140 ft. O. C. O. Oil Co.'s No. 1, 14-3-16, sr 650 ft. Rayne Oil Co.'s No. 1, 11-3-16, rig.

NEWPORT—Nnoil Co.'s No. 1, 29-6-10, pumping 1370 ft. Standard's Irvine 1, 26-6-10, dr shale 4955 ft.

OCEAN PARK—Hines Pet. Corp.'s Happy Days 1, 8-2-15, sd 6511 ft.

OLINDA—Graham-Loftus Oil Co.'s No. 1, 18-3-9, dr gray sand 8005 ft.

PLAYA DEL REY—Mesmer City Realty Co.'s No. 1, 24-2-15, coring 5978 ft.

PUENTE—Guarantee Oil Co.'s Rowland 1, 14-2-10, swabbing water and mud, td 4908 ft, showing some oil.

ROSEMEAD—Rancho Oil Corp.'s Harmon 1, 30-1-11, plugged to 5975 ft.

REPETTO HILLS—Texas' F. M. 1, 4-2-12, dr shale 4300 ft.

SAN FERNANDO — El Caballero Estates Co.'s No. 1, 23-1-16, dr gray sand 650 ft.

SAN PEDRO—Pedro Pet. Corp.'s No. 1, 14-5-14, lcn.

SUNSET BEACH—Gieck Oil Corp.'s No. 1, 20-5-11, dr out cmt, td 4475 ft.

WILMINGTON—York and Smullin's Watson 1, 29-4-13, plugged to 4200 ft, making production test.

YORBA LINDA—International Pet. Corp.'s Fricke 1, 21-3-19, lcn; Todd 1, 21-3-19, pumping water and oil, td 1875 ft.

OKLAHOMA

ALFALFA COUNTY—T 27n, R 11w, Sec. 12, Smith Bros., Forbes 1, ne c se nw nw, sd 1420 ft.

KAY COUNTY—T 27n, R 2e, Sec. 9, Mummer et al, Sornick 1, nw c se, hfw 2070-2170 ft, sd 3693 ft.

GRANT COUNTY—T 25n, R 4w, Sec. 22, Cowden, Collmer 2, ne c se ne sw, sd 5640 ft, lost tools.

ALFALFA COUNTY—T 24n, R 11w, Sec. 14, J. V. Bailey et al, Acre 1, c sw ne, show gas 5298-5303 ft, sd 5460 ft.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer, White 1, se c nw, sd 5850 ft.

BLAINE COUNTY—T 19n, R 10w, Sec. 13, Washoma Pet. Co., Phillips L, c nw sw, sd 4600 ft.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Healey et al, Quier 1, se c sw, sd 3970 ft.

KAY COUNTY—T 28n, R 3e, Sec. 24, Summitt Drlg. Co., Hays 1, nw ne nw, show oil 3185-3208 ft, Wilcox 3663-75 ft, dry, pb 3222 ft.

PAWNEE COUNTY—T 23n, R 5e, Sec. 15, Cochran et al, McFadden 1, ne c sw, rig. T 22n, R 5e, Sec. 2, Sherry et al, Milsap 1, se c sw, sd 1750 ft. T 20n, R 5e, Sec. 6, W. A. Rookstool, Berry 1, nw ne sw, sd 1951 ft, show gas.

LINCOLN COUNTY—T 13n, R 6e, Sec. 8, Atlantic et al, Beebee 1, sw ne sw, lcn. T 13n, R 6e, Sec. 9, Mid-Continent et al, Lillie 1, ne c se, sand 4195-4250 ft, made 75 bbls heavy black oil, td 4318 ft, pb to 4035-68 ft, shot 40 qts 13M gas, complete.

OKFUSKEE COUNTY—T 12n, R 10e, Sec. 3, Shepperd et al, Shepperd 1, se nw sw, sd 3690 ft.

PITTSBURG COUNTY—T 9n, R 16e, Sec. 32, Pattison et al, McDuff 1, sw nw se, show gas 5654-64 ft, sd 5715 ft. T 8n, R 14e, Sec. 14, C. O. Cannady et al, Smith 1, sw c ne nw nw, abn rig. T 7n, R 14e, Sec. 5, C. O. Cannady et al, Travis 1, c sw ne, abn rig.

LATIMER COUNTY—T 7n, R 19e, Sec. 16, P. English, Weaver 1, c nw se, sd 1542 ft.

OKLAHOMA COUNTY—T 12n, R 4w, Sec. 17, C. F. Cuniff, Trustee, St. Joseph 1, sw c ne sw se, sd 6700 ft.

SEMINOLE COUNTY—T 10n, R 6e, Sec. 19, Bunte et al, Bruner 1, se c nw, rig.

POTTAWATOMIE COUNTY—T 8n, R 3e, Sec. 21, Droppleman et al, Jones 1, se c nw, cored show oil 4675 ft, td 4878 ft, sd.

ROGER MILLS COUNTY—T 12n, R 24w, Sec. 23, Ute Oil Co. et al, Williams 1, c sw, dr 4950 ft. T 11n, R 26w, Sec. 5, J. J. Rook and Palmer, Davis 1, c nw ne (owd) sd 2960 ft.

CANADIAN COUNTY—T 10n, R 6w, Sec. 1, J. V. Bailey et al, Robinson 1, c ne nw, sd 150 ft.

WASHITA COUNTY—T 8n, R 19w, Sec. 29, Snodgrass et al, Blocker 1, nw c, sd 1875 ft.

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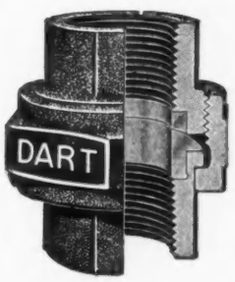

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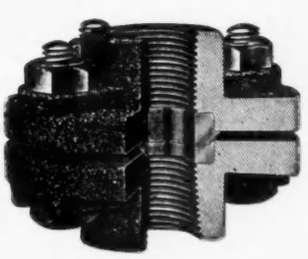

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T 8n, R 18w, Sec. 21, Burns & Prince, Dock 1, sw c, sd 1050 ft.

GREER COUNTY—T 7n, R 22w, Sec. 1, Good & Dowell, Cliffel 1, nw c, sand 1462-1501 ft, sd 1745 ft. T 7n, R 21w, Sec. 23, H. A. French, Murphy 1, sw nw se, sd 1654 ft.

STEPHENS COUNTY—T 1n, R 8w, Sec. 25, Ross Southard, McKinney 1, ne c, td 1063 ft, abn.

HUGHES COUNTY—T 5n, R 11e, Sec. 15, J. J. Wright, Roberts 1, ne c sw, 2M gas 915-18 ft, td 1645 ft, hfw, dry and abn.

GARVIN COUNTY—T 2n, R 2w, Sec. 24, Malernee, Phillips 1, ne c sw, dr 4115 ft.

COAL COUNTY — T 2n, R 8e, Sec. 10, Whitney et al, Miller 1, se c ne (owd) sd 760 ft. T 1n, R 8e. Sec. 35, W. E. McCraw, Stiring 1, ne c se, sd 1400 ft.

ATOKA COUNTY—T 3s, R 10e, Sec. 18, Brookshire et al, Guinn 1, ne c, show gas 360-72 ft, sd 500 ft.

BRYAN COUNTY — T 7s, R 10e, Sec. 8, Bryan Oil Co., Childs 1, ne se sw, sd 660 ft.

ARKANSAS

Completion

WASHINGTON COUNTY—
Taylor et al, Runny 1, 1-13-29..... • 1702

CHICOT COUNTY—W. R. Smith's Lytle 1, 31-18-3, ta 2925 ft.

CLAY COUNTY—S. C. Jeffus, Tr.'s Underwood 1, nw ne 4-20-8e, sd repr rig 1252 ft.

CLEBURNE COUNTY—Donnell et al's Fee 1, 33-11-9, sd 3740 ft.

CLEVELAND COUNTY—Crum & Stillwell's Bell 1, ne sw 10-10s-12w, rig.

COLUMBIA COUNTY—Kendall Oil Co.'s Fullenwilder & Kitchen 1, ne ne 13-17-22, 12½ cas 75 ft, claim oil sand 489-502 fe td 778 ft.

DALLAS COUNTY—Jno. James, Tr.'s Fordyce Lbr. Co. 1, ne nw 11-9s-15w, 10-in 175 ft sd 2520 ft. E. C. Brewer, Tr.'s Hillman 1, se ne 20-10-13, 10-in 138 ft sd in white sand 2869 ft.

GRANT COUNTY—Spann & McClung's Sarah Page 1, sw nw 3-3-12, sd wo in soft white sand 1024 ft.

HOT SPRINGS COUNTY—Starr Oil Co.'s Cunningham 1, ne ne 11-5-16, fsh 2 joints 6-in ds td 1227 ft.

JOHNSON COUNTY—Blackwell O&G Co.'s Wyver 1, 21-8-23, ta 5600 ft.

LA FAYETTE COUNTY—Crawford Drilling Co.'s Vaughan 1, 25-19-25, rig. McIver et al's Hattle 1, nw ne 1-20-26, 12½ cas 115 ft sd 2520 ft.

LAWRENCE COUNTY — Margueriite Dev. Co.'s Broadway 1, 31-17-1, sd 45 ft

LINCOLN COUNTY — L. B. Cook, Tr.'s McGehee Pltg. Co. 1, ne sw 5-8s-7w, 12½ cas 90 ft dr sand 2000 ft.

LITTLE RIVER COUNTY — Fay Roberts Oil Co.'s Russell 1, nw nw 25-12-29, lcn.

LOGAN COUNTY—M. W. Greesom's Parks 1, 21-8-24, sd 1309 ft. J. H. Flowers' White 1, 13-5-26, sd 3610 ft.

MILLER COUNTY—E. & F. Oil Co.'s E. L. Beck 1, 36-26-26, 6⅝ cas 2792 ft 4½ cas 2957 ft sd 2968 ft. J. D. McRae's Smith 1, nw se 28-15-26, dk. W. E. Noel et al's Dickson 1, nw ne 11-20-27, lcn.

OUACHITA COUNTY—Copenhaver et al's Elliott 1, se se 11-15-17, 6-in cas 2185 ft sd 2210 ft.

PIKE COUNTY—Henderson et al's Tilyou 1, 26-8-24, show heavy oil 567 ft, ta in lime rock 2920 ft. E. R. Henderson's Lee 1, sw se 31-8s-24w, 10-in 198 ft dr hd rock 822 ft.

SCOTT COUNTY — Heavener O&G Co.'s Reser 1, 36-4-26, fsh cas td 1536 ft. Waldron O&G Co.'s J. G. White 1, sw nw 17-3n-29w, 10-in 225 ft sd wo cas td 1860 ft (sec hole).

SEBASTIAN COUNTY—M. W. Greesom's Spears 1, 9-7-29w, sd after testing sw 2515 ft.

SEVIER COUNTY — Tri-State O&G Co.'s Bank of De Queen 1, s½ sw 34-8s-32, rigged up and sd.

UNION COUNTY — Southern Prod. Co.'s

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NIKROME SHAFTS

Wingfield 1, se nw 16-19-15, 10-in 103 ft sd 2608 ft. Lion O. R. Co et al's Guy P. Hayes A-9, sw ne 4-16-15, 12½ cas 270 ft cored sand slight show oil 3998-4004 ft cemtd 9-in od cas 3998 ft td 4004 ft (5000 ft test). Wilson & Chapman's Hadley 1, ne sw 3-18-13, 300 ft fluid in hole 30 per cent sn td 3570 ft. Atkins 1, sw ne 3-18-13, 10-in 106 ft dr gumbo 2750 ft. H. Norman 1, se ne 3-18-13, dk. Doty A-1, ne se 3-18-13, lcn. Doty B-1, ne se 3-18-13, lcn. Marine Oil Co.'s P. Winn Est. A-2, nw nw 11-18-13, 10-in 276 ft 6⅝ cas 3579 ft swabbed 80 per cent sw ta 3586 ft. W. B. Thompson D-1, sw se 3-18-13, rig.

WASHINGTON COUNTY — Taylor et al's Runny 1, 1-13-29, dry abn in black shale td 1702 ft. Lincoln Lease Holding Synd's Townsite 1, 30-15-32, ta 1500 ft. C. H. Willoughby's Jones 1, 34-16-30; sd 2150 ft. O'Hara & Shetterley's Boyd 1, 12-16-32, ta 650 ft. Delbert Graves' Cunningham 1, 14-15-32, sd in gray sand 602 ft.

VAN BUREN COUNTY — J. S. Martin's Scanland 1, 5-9-13, sd 50 ft.

YELL COUNTY — T. Luckett's Balcon 1, 36-7-12, sd while fsh cas td 5710 ft.

MISSISSIPPI

CLAY COUNTY—Ohio Oil Co.'s Cantrell 1, ne ne 16-15-5e, elev 27 ft, 13⅜ cas 1389 ft, 9⅝ cas 2929 ft, sd in black shale, wo 5000 ft drill line, td 4253 ft.

CHICKASAW COUNTY—Hightower & Golsan's Fleming 1, 20-13s-3e, sd wo 6-inch cas, td 1505 ft.

COVINGTON COUNTY (Collins Dist.)—Gulf Ref. Co.'s Pope 1, 35-8n-16w, dr hard gray sandy lime 3865 ft.

JASPER COUNTY (Bay Springs Dist.)—Bay Springs Pet., Inc.'s, J. H. Keyes 1, nw ne 21-2n-10e, 15½ cas 104 ft, top Cane River 1090 ft, top Wilcox 1529 ft, sd 2032 ft.

JEFFERSON COUNTY — M. M. Stokes' School Board 1, nw sw 14-10n-2w, rig.

MONROE COUNTY (Amory Dist.)—Amory Dev. Co.'s Bourland 1, sw ne 2-15-19, ta in brown sand 3007 ft. P. J. McAlpine's Cowart 1, ne sw 2-12-19, 10-inch 694 ft, 8¼ cas 1276 ft, 6⅝ cas 2208 ft, dr 2468 ft. Associated Royalties' School Board 1, sw se 16-15-17, ta 60 ft.

NEWTON COUNTY (Newton Dist.)—Dalton Dev. Co.'s Majure 1, se se 25-6n-11e, dk.

NOXUBEE COUNTY (Macon Dist.)—Geo. R. Thompson's Donahue 1, 25-16n-17e, elev 280 ft, mov in rig.

RANKIN COUNTY (Jackson Dist.)—Love et al's Muse 1, se se 32-7n-4e, 12½ cas 600 ft, top black shale 3740 ft, sd in black shale and bldrs, wo heavier rig to deepen to 5000 ft, td 4000 ft. Moore 1, se nw 28-6-2e, ta 900 ft. Atkisson et al's Valentour 1, nw nw 18-5-2e, sp sd rep rig. United Gas Pub. Serv. Co.'s Hartfield A-1, se nw 7-5-2e, elev 272 ft, sp cemt 12½ cas 105 ft. Gulf Ref. Co.'s Hanna A-1, nw se 23-5-1e, elev 261 ft, rig (4000 ft test).

SCOTT COUNTY—Culley et al's Owen 1, se ne 2-8n-9e, dk.

WARREN COUNTY (Vicksburg Dist.)—Eagle Lake O&G Co.'s Kiger 1, sw se 9-18-2e, sd repr rig in gumbo 1990 ft. Vicksburg O&G Co.'s Dornbusch 1, sw ne 8-18n-5e, ta 1600 ft.

WINSTON COUNTY (Louisville Dist.)—Miss. Drilling Co.'s Scarbrough 1, nw nw 15-13n-14e, base red beds 2793 ft, sd in hard black shale 3310 ft.

YALABOUSHA COUNTY (Water Valley Dist.)—J. D. Collett et al's Blackmer 2, sw nw 14-11s-4w, 12½ cas 103 ft, 8⅝ cas 2428 ft, sd in hard formation at 3272 ft, wo rock bit cones.

ALABAMA

MADISON COUNTY — Tennessee Valley O&G Co.'s Fee 4, 1-4s-2e, no report.

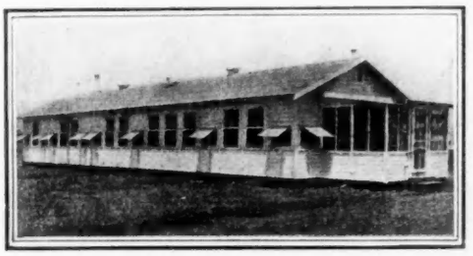
SUMTER COUNTY (Livingston Dist.)—Forked Lightning O&G Co.'s Nixon 1, sw ne 30-20-2w, dk.

WASHINGTON COUNTY—Hobson et al's Wilson 1, 27-7-1w, 10-inch 130 ft, driving 8-in pipe below 1000 ft; Hobson Bros. 1, 9-8-2w, ta 1450 ft. Oscar Brown's U. S. Land & Cotton 2, 25-3-2w, ta 700 ft.

TENNESSEE

DECATUR COUNTY—Chester County O&G Co.'s Montgomery 1, sd 2289 ft.

A type of sectional building for



every need of the oil and gas

industry *means greater* housing economy and efficiency

HOUSTON READY-CUT HOUSE CO.

Successors to CRAIN READY-CUT HOUSE CO.
HOUSTON, TEXAS

E & T All-Steel Valves—
...withstand abrasive wear

—For Slush Pumps
—For Cement Pumps
—For Oil Line Pumps

EASON & THEROLF TOOL CO.
P. O. BOX X, LOS NIETOS, CALIFORNIA.

HAS READING SOLVED the SUCKER ROD PROBLEM?

Apparently So—

HERE'S THE EVIDENCE!

After two years of test and experiment—two years of licking tough jobs—after amazing *Actual Service Records**

RESULTS SHOW THAT WE HAVE A ROD WHOSE LIFE IS

200% » » »
250%

THAT OF SPECIAL RODS!

and the READING RODS ARE STILL IN THE HOLE!

Watch for further details in future issues of this magazine.

READING IRON COMPANY, READING, PA.

READING

PUDDLED IRON SUCKER RODS

*Laboratory tests were of secondary importance in our own tackling of the problem.

New Equipment for the Field

MACHINERY - TOOLS CATALOGS - BOOKS

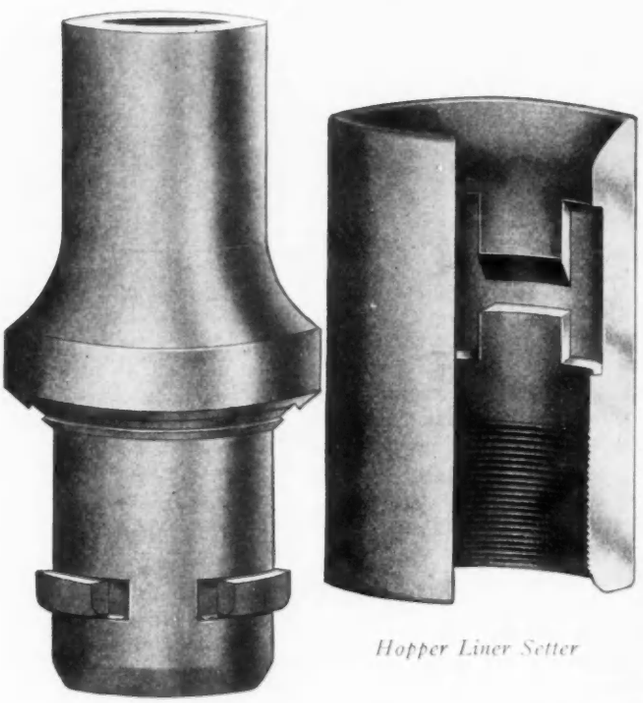
▼ ▼ ▼

Liner Setter

HOPPER MACHINE WORKS, INC.

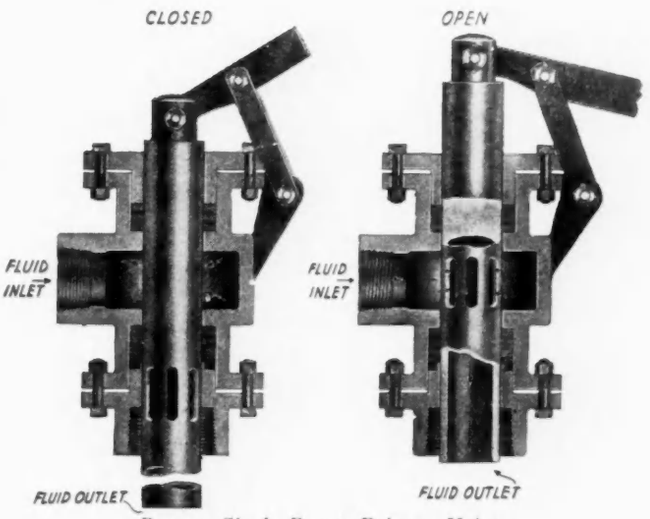
The Hopper Machine Works, Inc., Bakersfield, California, announces production of a new liner setter. Among the outstanding features of this equipment is a solid adapter, the insurance of a smooth, sure entrance and the absence of a delicate latch mechanism.

There are no holes in the wall of the adapter to weaken it. It has an inside bevel at the top that makes for smooth entrance of the mandrel which has a corresponding bevel on the bottom. Provision is made for packing in the head so that it can be set down on the adapter and circulation provided through the perforations in the pipe below. When on production, the bailer and tools can be run through the adapter without injury to the latch mechanism. This latch mechanism consists of two expanding jaws on the headpiece with their two adjacent ends pivoted.



Hopper Liner Setter

When unhooking from the liner, the head is turned, either to the right or left, until it stops. The head is raised until the drill pipe will rotate one-quarter turn, then, in lifting up, the tapered keys will collapse the expanding jaws and allow the head to be released. In hooking on to the liner, the head will enter the adapter with ease because of the beveled entrance. As the shank enters, the two rings are contracted smoothly and gradually as they come in contact with the beveled top of the adapter. The head will enter the adapter in any position. Further information on this equipment may be obtained upon request to Hopper Machine Works, Inc., Bakersfield, California.



Brauer Slush Pump Release Valve

Slush Pump Release Valve

BRAUER MACHINE & SUPPLY COMPANY

Brauer Machine & Supply Company, Oklahoma City, Oklahoma, announces a new release valve for rotary slush pumps and boiler blow off lines. The principal feature of this valve is the hollow plunger, with fluid inlet ports, operating between two stuffing boxes. The pressure is equalized in the fluid chamber of the valve, and with a lever handle the valve is easily opened and closed under pressure.

Further details pertaining to this valve may be obtained by writing to the company.

Refillable Cannister

BULLARD & DAVIS, INCORPORATED

Bullard & Davis, Incorporated, San Francisco, announces the new Bullard Refillable Cannister for gas masks. This cannister is made of drawn seamless aluminum. The cannister is made round to give it greater strength and also to prevent any tendency for the air to channel in the container. A cannister of 1500 c.c. capacity, completely charged, weighs 2.4 pounds.

Bullard Refillable Cannister

A refill unit is made for the new Bullard Refillable Cannister which is packed in an airtight cellophane bag. The capacity of each refill is 1500 c.c. The cannister is refilled by slipping the bale, removing the used chemical and inserting the refill.

The cannister is made with protective screenings at each end which keep the chemicals in place and withstand the pressure of the refill unit when packed. Filter-

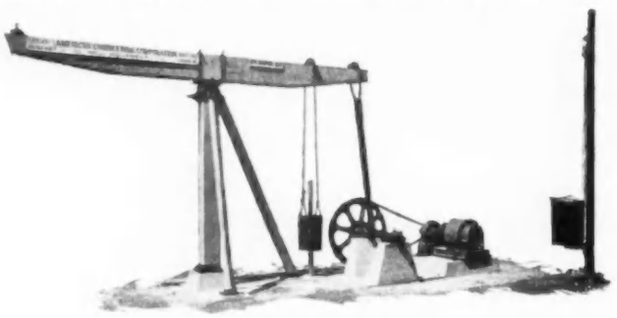
ing materials are placed above and below these screenings. Between these screenings and filtering materials the refill unit is kept in place by the pressure of springs which are forced down under the cover. Another feature of this cannister is the provision of the equipment with standard attachments which will fit the standard connections on any type of gas mask.

A particular feature of the cannister is a new type of metal label which may be written on and then erased. Space is provided on the chart for the type of gas for which that particular cannister is to be used, the date filled, and by whom, and also a chart for checking the minutes during which the cannister is in use.

Deep Well Pumping Unit
AMERICAN ENGINEERING CORPORATION

American Engineering Corporation, Houston, announces production of a simplified pumping rig. Among the changes made in the construction of this unit is the replacement of the customary bull wheel and crank, of the standard rigs, by a combination crank-sprocket wheel. The drive is direct from source of power to outside diameter of this wheel by a short No. 1030 chain. The pitman is mounted on the crank-sprocket wheel, with the number and size of the wrist pin holes in the drive wheel adhering to A. P. I. specifications.

This type of drive places the wrist pin on the outside of its prime mover. By doing this the necessity of transmitting power through the keyed band wheel and crank has been eliminated.

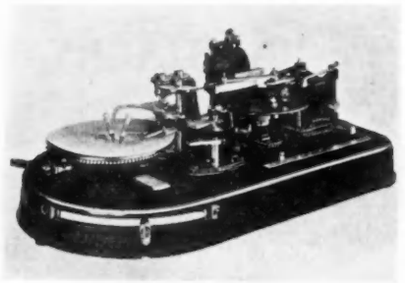


American Pumping Unit

The entire rig, from Sampson post to engine or motor block, is mounted on a continuous steel reinforced concrete foundation. The jack posts, as well as the engine or motor block, are steel reinforced concrete, an integral part of the foundation. The crank shaft is slotted for mounting either tug wheel or sprocket to accommodate operation of standard bull wheels or any make of tubing hoist for servicing well.

The rig has a straight-line drive from the source of power to the well, which is close coupled, rigid, and compact. When the rig is supplied with any standard motor in weather housing no shelter is required. Any pumping speed may be secured by changing the drive sprocket on the power source.

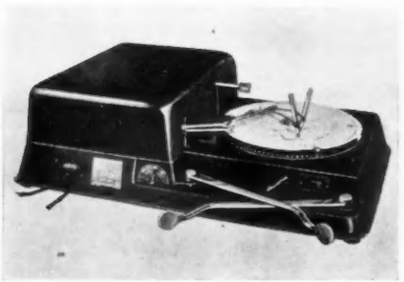
The counterweight, suspended by a wire line from the walking beam, is held in true alignment by means of a guide post set in the concrete foundation. Interlocking additional weights are furnished to secure any desired balance weights. The rig irons are an improved departure from the usual type. The top and bottom irons are cap shaped to fit over the Sampson post. The braces of the Sampson post extend to the top of the post and are further strengthened by tie-rods and foot castings. Prices and complete details of this unit may be secured by writing to American Engineering Corporation, 1510 Esperson Building, Houston, Texas.



Emcolator

Integrating Machines
PITTSBURGH EQUITABLE METER COMPANY

Pittsburgh Equitable Meter Company, Pittsburgh, Pennsylvania, in announcing acquisition of the McGaughy Integrator Company, Tulsa, Oklahoma, reminds the industry that the "Emcolator," a development of Pittsburgh Equitable Meter Company engineers, and the McGaughy Integrator are now available.

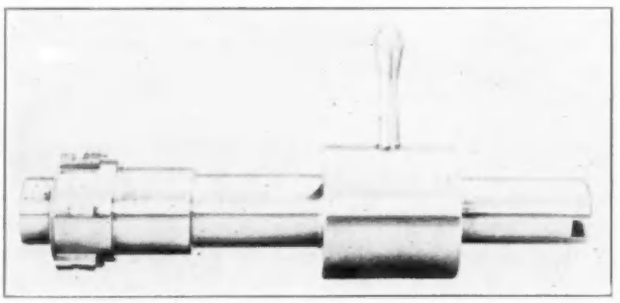


McGaughy Integrator

This integrator is used to calculate orifice meter charts. Before the development of the integrating machine it was necessary to calculate the charts through the observational method. Integrators are found to be at least as accurate as the closest observational methods of figuring charts. An operator with a few week's experience, operating either machine can handle approximately 300 charts a day.

Valve Seat Tap
LANDIS MACHINE COMPANY

Landis Machine Company, Waynesboro, Pennsylvania, has placed on the market a tap for tapping the valve seat ring threads in gate valves. These threads have long been a source of worry to the manufacturers of this type of valve due to



Landis Valve Seat Top

the fact that the major diameters of the threads are greater than the port openings.

The Victor Valve Seat Tap is fitted with double ended chasers, one end for each of the two valve seat ring threads. Its construction is such that the chasers, when collapsed will clear the port openings. The chasers are expanded to the cutting position by means of a handle provided for that purpose after the tap has entered the valve body through one of the port openings.

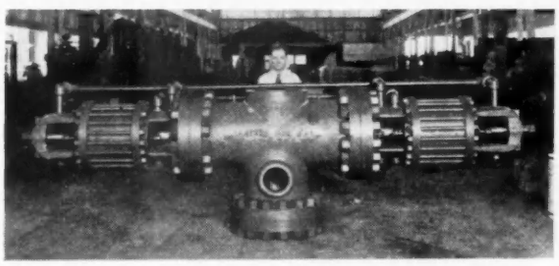
The two threads are tapped with the same chasers in one chucking. The tap is suitable for valves with either parallel or angle seats. Valves with angle seats require a fixture of the trunnion type with stops for bringing the valve seat ring openings in line with the tap.

Information concerning this tap may be obtained upon request to Landis Machine Company, Waynesboro, Pennsylvania.

Blowout Preventer

CAMERON IRON WORKS

Cameron Iron Works, Inc., Houston, Texas, announces shipment of one of the largest C-I-W Blowout Preventers ever constructed under its patents. The big preventer was delivered recently to an operating company in Burma, India. Design is of the new remote-control, mud-operated type, a radical innovation in blowout preventer construction. Operating pressure is taken from the mud line leading from the mud pump to the standpipe, and is controlled by a four-way valve installed some distance from the derrick. Opening and closing of the rams is instant and positive, action being controlled by the four-way valve.



C-I-W Blowout Preventer

Length of the big preventer is 15 feet and four inches; height, 51 inches; weight, 14,000 pounds. Casing openings are 18 inches. Rams are furnished for closing on both six-inch and four-inch drill pipe. Pistons which actuate the rams are of a special design, fitted with replaceable inserts, similar to those used in many types of slush pump pistons. Pistons are double-acting, that is, they operate both to open and close the rams. Specially designed rams are also furnished with C-I-W Preventers of this size, rams which permit mud pressure to be directed behind them as well as behind the pistons on the closing stroke. This compounds the pressure applied to the rams, and gives double assurance not only of instant and positive closing, but of a leak-proof seal under the heaviest well pressures. At 600 pounds per square inch mud pump pressure, approximately 300,000 pounds per square inch closing pressure is applied to the rams.

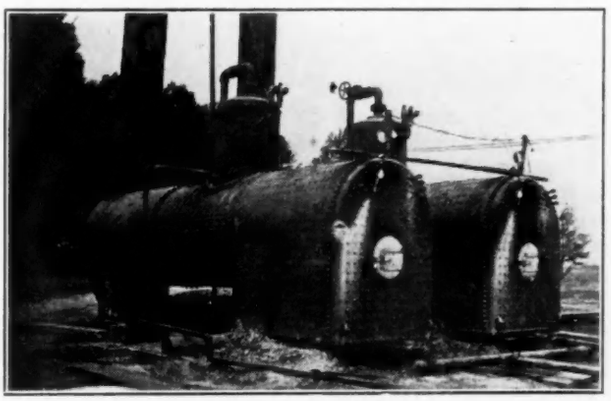
Another feature of the big preventer is that the rams are equipped with guide vanes which automatically center the drill pipe between the rams on the closing stroke, no matter how much the pipe may be leaning off center. Lock screws, which permit the rams to be locked securely around the drill stem, are 4⅛ inches O.D. Working pressure of the preventer is 3000 pounds. Flow line openings are eight inches. All body studs are 2½ chrome nickel steel.

The new mud-operated type C-I-W Blowout Preventer has a number of exclusive advantages, full details of which will be supplied on request by the Cameron Iron Works, Inc., Houston, Texas.

110 Horsepower Boiler

THE BRODERICK COMPANY

The Broderick Company, Muncie, Indiana, has recently added to its line of boilers, a new high pressure boiler, especially adapted to the East Texas fields.



Broderick Boilers in East Texas Service

This boiler weighs 12 tons and is rated at 110 horsepower with a heating surface of 1110 square feet. The firebox measures 52¼ inches in width and 68¾ inches in length, giving 126.25 cubic feet of combustion space. The tubes are 14 feet long and three inches in diameter, giving a large gas area and still insuring that the stack gas temperatures will not be excessive.

The boiler carries a specious dome, which is attached to the shell of the boiler by means of a heavy seamless collar and is double riveted at the connection. The steam connection on the dome head is provided with a four-inch extra heavy forged steel nozzle and companion flange, giving a strong connection capable of withstanding the excessive pipe strains.

Tru-Lede Tap

GREENFIELD TAP AND DIE CORPORATION

Greenfield Tap and Die Corporation, Greenfield Massachusetts, has introduced the Tru-Lede tap for production threading, a tap designed to prevent lead error and problems of screw thread assembly. They are made from high speed steel. The permitted tolerance on Tru-Lede taps is .0005-inch in one inch of thread against .003-inch on cut thread taps.

The shanks of these taps are ground concentric with the threads.

The company offers this new tap to the trade in hand, machine screw and gun styles, in all standard sizes and pitches.

Detailed information will be sent upon request to the company.

Manufacturer and Supply Dealer Notes

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Through acquisition of holdings of J. A. Woods in Bridgeport Machine Company of Wichita, Kansas, A. A. Buschow now is the owner of a controlling interest in the corporation which manufacturers and distributes oil field equipment. Mr. Buschow has been president and general manager and Mr. Woods chairman of the board. Mr. Woods has maintained his connection with the oil industry through investments in East Texas and other localities and expects to be active in that phase of the business.

A. A. Buschow

Coming to the Bridgeport Machine Company as secretary and treasurer some eight years ago when the company's general offices were located in Augusta, Kansas, Mr. Buschow has been in intimate touch with the affairs of the concern and for the last several years has been in charge of the active management. He formerly was in the banking business in Augusta and in that capacity has been conversant with the oil business for the last 15 years.

In 1926 the general offices and manufacturing plants of Bridgeport Machine Company were moved to Wichita from Augusta. The company makes the Swan underreamer and other patent specialties as well as distributing established equipment through the Mid-Continent field where branches are maintained at all active points in the oil country.

Pittsburgh Equitable Meter Company announces acquisition of all assets of McGaughy Integrator Company of Tulsa, makers of the McGaughy integrator for calculating orifice meter charts.

Republic Steel Corporation, Youngstown, Ohio, has issued three new booklets pertaining to products of that company. The first, a 64-page illustrated booklet on "Sheet Iron—a Primer," tells in non-technical language the story of iron-working and describes, step by step, the modern commercial practice of sheet rolling. The second booklet is also a 64-page presentation of installation and application of Copper Molybdenum Iron Alloy Pipe. Several typical examples of service under unusually severe conditions are also given in this booklet entitled, "Toncan Iron Pipe for Permanence." "Agathon Alloy Steels" is a 132-page booklet giving the recent and authoritative data on alloy steels together with complete instructions for heat treatment of these steels. Copies of these booklets may be obtained upon request to the Republic Steel Corporation, Youngstown, or the central alloy district of the same company at Massillon, Ohio.

National Tube Company announces appointment of W. J. McKee, Philtower Building, Tulsa, as sales manager in charge of oil country goods, oil and gas line pipe in Oklahoma, Kansas, and Arkansas. This appointment became effective June 5, 1931, according to announcement by J. J. Kennedy, Pittsburgh, general manager of sales for the company.

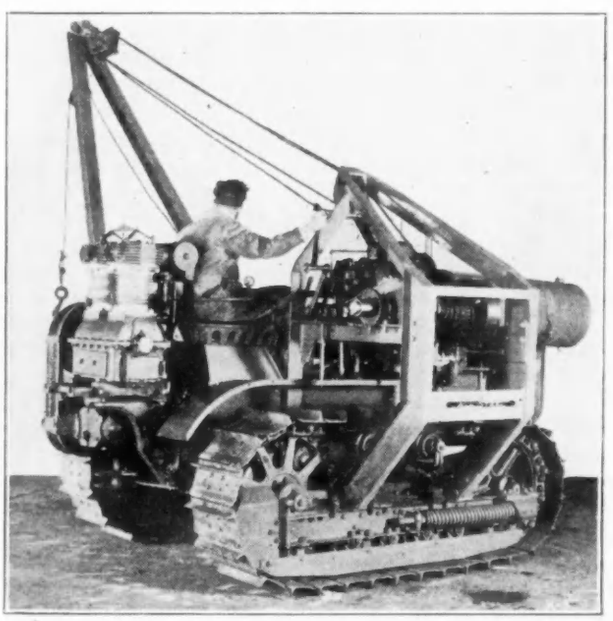
The Oil Well Supply Company announces removal of its export office to the Empire State Building, Fifth Avenue and 34th Street, New York.

M. "Bink" Manning, district superintendent for Humble Oil & Refining Company in the Gulf Coast territory, Houston headquarters, for many years, and a member of that organization's operating force since 1919, was honored at a banquet last Saturday night in Houston, given by employes of the company. The occasion was Manning's leaving the organization to assume his duties as president of Houston Oil Field Materials Company, an equipment distributing company with Houston headquarters. Manning has been in the drilling and production branch of the industry for approximately 25 years in the Gulf Coast country, and spent a number of years serving Gulf Production Company.

Caterpillar Tractor Company, Peoria, Illinois, announces through its equipment research department interesting results of work done during the past two years in cooperating with other manufacturers to build equipment to be powered by Caterpillar tractors. The latest combination, shown here, is a Caterpillar "Thirty" tractor equipped with a Davey Compressor and a Cardwell Allsteel winch.

The winch is used on this combination particularly for pipe handling, as in pipe laying jobs, loading or unloading, while it is suitable also for shovel work. Allsteel Products Manufacturing Company, Wichita, Kansas, manufacturers of this winch, has specialized in meeting the problems of the oil field contractor for a number of years.

The Davey compressor, a product of Davey Compressor Company, is used in drill or air hammer work, and, used in this combination, adds to the completeness of the unit, offering a more complete service in a single power unit.



Caterpillar Tractor Winch and Compressor Combination

NOW AVAILABLE IN BYERS GENUINE WROUGHT-IRON— SPECIAL BENDING PIPE AND WELDELLS!

TWO modern needs are solved by the manufacturing achievement which makes this announcement possible. Wrought iron now offers new solutions to old problems!

SPECIAL BENDING PIPE: This pipe has every quality and characteristic of Byers Genuine Wrought-Iron Pipe — *plus bend-ability!* On cold bends, the extra-heavy bending pipe can be bent to a center-to-center diameter as low as 313 times the outside diameter of the pipe! In any industry, there are definite places where this special bending pipe is the utmost in performance and economy.

WELDELLS *(Welding Elbows)*: Perfected and manufactured by The Locomotive Terminal Improvement Company, Chicago, wrought-iron Weldells are manufactured exclusively from Byers Genuine Wrought-Iron. They are available in sizes from 2 inches to 12 inches and are fabricated with the same radius and center-to-face measurements as standard radius fittings. In the forging, a tangent is formed on each end, making Weldells interchangeable with standard fittings. Made of the same wrought iron as the pipe, Weldells may be welded directly into a line, saving time, trouble, and money where welding is the method of fabrication prescribed. Unless otherwise specified, both ends are beveled 45 degrees for welding. This new achievement in wrought iron demands your consideration in the interest of service and economy!

Accurate control of physical and chemical characteristics that modern manufacturing permits makes Byers the best wrought iron ever produced. A bulletin entitled "Pipe Bending" and a folder entitled "Piping Continuity" will be mailed free upon request. A. M. Byers Company, Pittsburgh, Pennsylvania.

These are the Byers Genuine Wrought-Iron Products

Pipe	Couplings
Special Bending Pipe	Weldells*
Tubing	Plate
Casing	Bar-iron
Nipples	Blooms

*MADE FROM BYERS GENUINE WROUGHT-IRON BY THE LOCOMOTIVE TERMINAL IMPROVEMENT COMPANY OF CHICAGO

BYERS GENUINE WROUGHT-IRON PRODUCTS

WHEN YOUR DRILLER GETS SORE AND SLAMS THE BRAKES DOWN....promise him an APPLEMAN!

Driller: (As he slams the brakes down with a vengeance) "I can make as much hole as any digger with the right equipment."

Superintendent: "What are you griping about . . you've got a new rig and everything."

Driller: "All new things ain't good. These mud paddles we're usin' are no match for the APPLEMANS they're diggin' with all around us."

Superintendent: "You're right, Bill! I was just kidding you . . . you blew up just as I was going to tell you that we'd ordered APPLEMANS to be delivered tomorrow. You'll cut your round trips in half now!"

Use APPLEMAN GUMBO BITS from now on and save time and money.

B.K. APPLEMAN
BEAUMONT, TEXAS

Squeaks From the Bull Wheel

▼ ▼ ▼

Two sons of Erin were talking together.

"And so yer name is O'Hare?" said one. "Are yez related to Patrick O'Hare?"

"Very dishtantly," said the other. "I was me mother's first child, and Patrick was the thirteenth."

He was a stout man, with large, broad feet, and although several pairs of shoes were shown to him, he refused to choose any of them.

"I must have square toes," he explained to the bootshop assistant.

The young man sighed wearily.

"But square toes are not stocked now, sir," he replied. "Pointed toes are absolutely fashionable this season."

The stout man gave him an angry glance.

"That may be," he retorted, "but I happen to be wearing last season's feet."

"What are Smith's two daughters like?"

"The elder is terribly simple and the younger is simply terrible."

Ex-Capitalist—Why, a lot of us had seats on the Stock Exchange a year ago, and now look at us.

Farmer—Yes, and many of us had seats in our pants a year ago, and now—don't look at us.—Capper's Weekly.

"Surely, you know the King's English?"

"Of course he is, isn't he?"

A Scot was engaged in an argument with a conductor as to wether the fare was 5 or 10 cents. Finally the disgusted conductor picked up the Scotchman's suitcase and tossed it off the train, just as they passed over a bridge. It landed with a splash.

"Mon," screamed Sandy, "isn't it enough to try and overcharge me, but now you try to drown my little boy?"

A Hebrew and a Scotchman had a collision. They both got out of their cars and for a few minutes the argument waxed hot. Then the Jew said:

"Can't we fix this thing up? Here, take a drink," and he handed the Scotchman a flask.

The Scotchman accepted and downed a man's sized drink at one gulp.

"Have another," said the Jew. The Scotchman drank a second and a third.

When the liquor was all consumed, the Jew called a policeman.

"Here, officer," he cried, "this fellow smashed into me. He's drunk. Just smell his breath."

They were a very green couple from a country village on their honeymoon. A town friend had recommended a certain London restaurant where shellfish were a specialty.

"Oh," said the bride, after scanning the menu," I think I'll have a dozen lobsters."

"Lobsters, madam?" echoed the waiter. "Do you mean that?"

"Of course she means lobsters." The groom gave the waiter a severe look. "And you may bring me a dozen, too."

In due time the waiter appeared, staggering under two trays piled high with the red shellfish. He placed a dozen in front of the girl and a dozen in front of the man.

The young husband looked at them aghast. So did the bride. She was the first to recover her speech.

"Don't you think, dearest," she said, in a very small voice, "that maybe it was oysters Harold told us to get?"

An Englishman visiting the film colony at Hollywood had his attention drawn to two Indians who were resting between the scenes of a film. The Briton thought the opportunity too good to miss. "White man friendly to red man," he said. "White man hopes red men well and happy."

The Indians exchanged looks, then one murmured, "Hell, listen to this fool guy."

Theatrical Agent — Good news; I've booked your performing pigeons for a six-weeks tour.

Too late—I've eaten the act.

"Sam, Ah jes' seen a alligator eatin' our younges' chile!

"Umm-uh; sho' nuff? You know, Ah thought sump'n been gittin' our chillun."

"Did ye hear about Sandy McCulloch findin' a box of corn plasters?"

"No."

"Yes; so 'e went an' bought a pair of tight shoes."

Guide—Why not go to the top of the mountain? The famous sixfold echo is now twelve-fold.

Tourist—How is that?

Guide—During the busy season we put on extra hands.

"How old are you?" inquired the visitor of his host's little son.

"That is a difficult question," answered the infant prodigy. "The latest personal survey available shows my psychology age to be 12, my moral age 4, my anatomical age 7, and my physiological age 6. I suppose, however, that you refer to my chronological age, which is 8. That is so old fashioned that I seldom think of it any more."

25 Miles of Pipe in Four Days!

We made this record recently in laying a 10-inch pipe line through the swamps of East Texas for the Texas Pipe Line Company. An emergency arose which made it necessary that the 60-mile line be completed considerably in advance of the time limit originally set. *So we did it!*

An organization capable of welding, bending and tieing-in 25 miles of 10-inch pipe in four days must possess:

Stamina
Efficiency
Excellent Equipment

Let's get together on *your* next job.

N. A. Saigh Co.

Pipe Line Engineers and Builders

Builders Exchange Bldg.

San Antonio, Texas

An Amazing Underground Recording Job

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If you're off the vertical the SYFO Clinograph will tell you accurately *how much.* It will tell you on paper —a permanent and easily read record. The SYFO makes unnecessary the use of dangerous acids.

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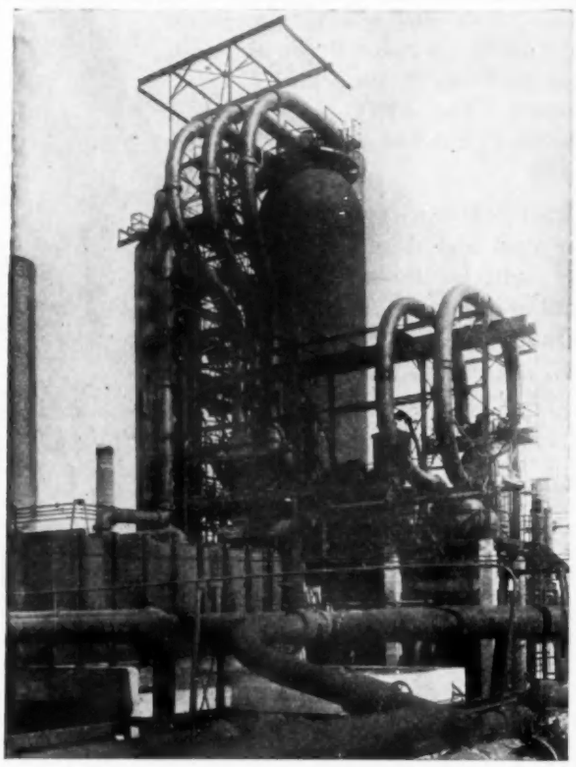

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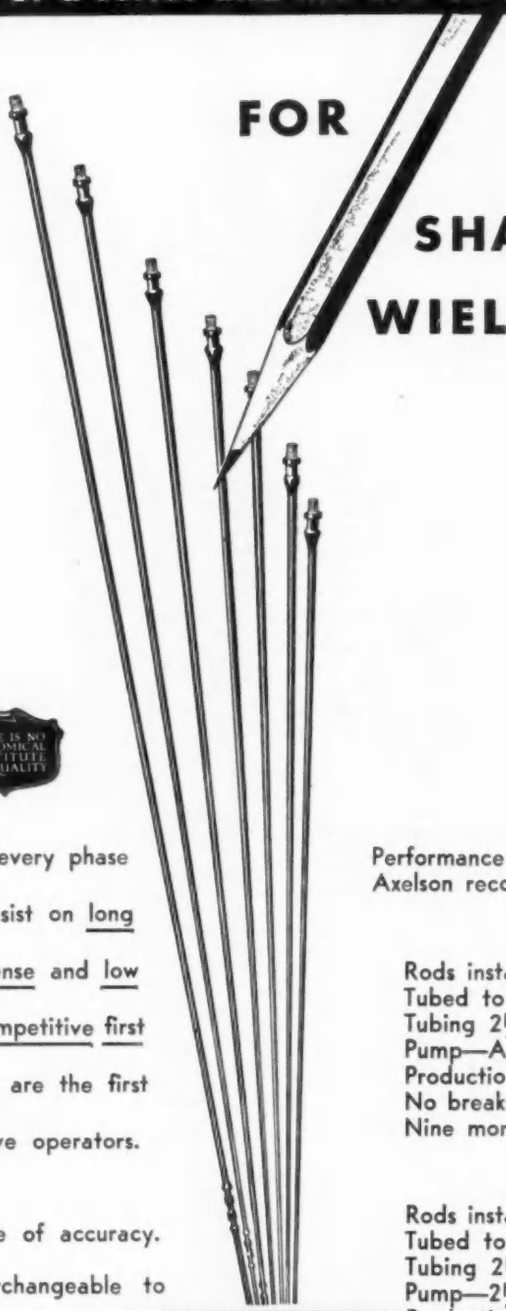
STRAIGHT FACTS

The 12th of a series and the 3rd on sucker rods



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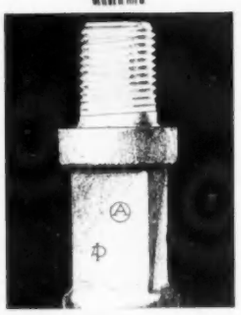
Sustained service is the heritage of accuracy. Axelson Sucker Rods are interchangeable to A.P.I. standards. They are scientifically designed to meet the severe tests of deep pumping and metallurgically built to resist fatigue, corrosion and wear. They are satisfactorily performing duty on every production front.



Performance tells the story. Here are a few of the Axelson records. May we send you all of them.

RECORD NO. 1
Rods installed Sept. 25, 1930.
Tubed to 7200'.
Tubing 2½" and 2".
Pump—Axelson Traveling Tube Insert Cup.
Production 205 bbls. per day.
No breaks to date.
Nine months of continuous operation.

RECORD NO. 6
Rods installed Dec. 12, 1930.
Tubed to 6500'.
Tubing 2½".
Pump—2½" Axelson Traveling Tube Insert Cup.
Production 150 bbls. per day.
No breaks to date.
Six months of continuous operation.

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